CHEMICAL MARKETS

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A Monthly Economic Review
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VOL. XXI No. 19 | Published Every Thursday by Drug & Chemical Markets, Inc. | NOVEMBER 10, 1927

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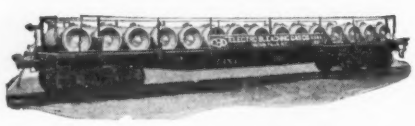

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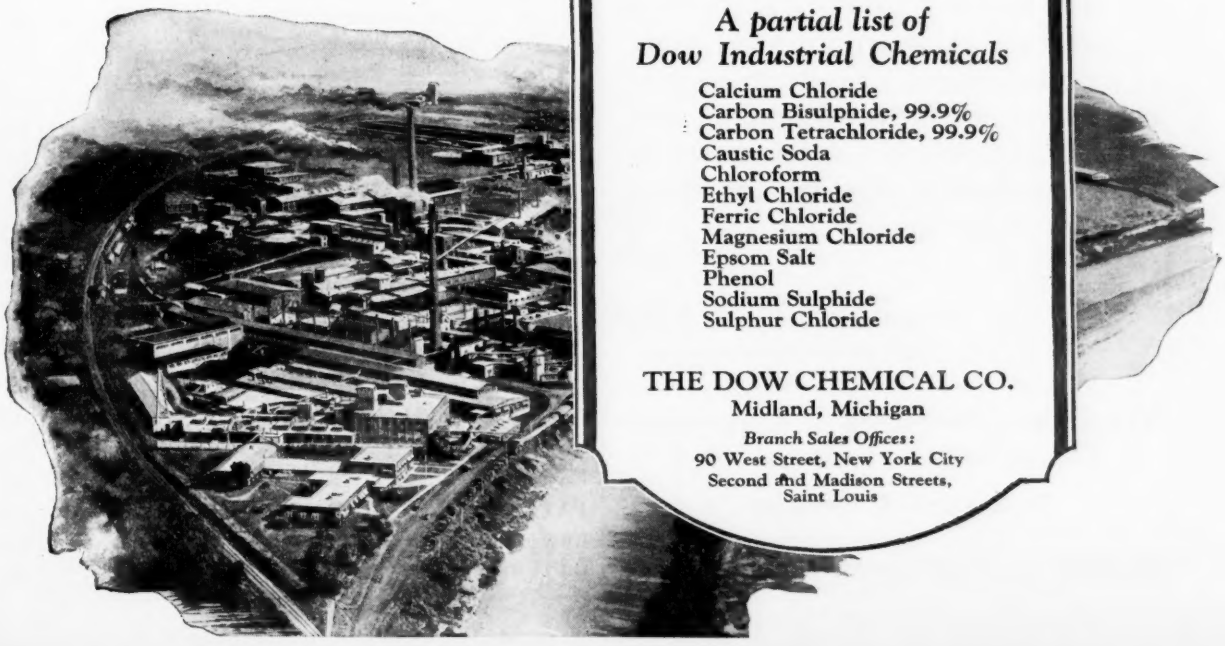

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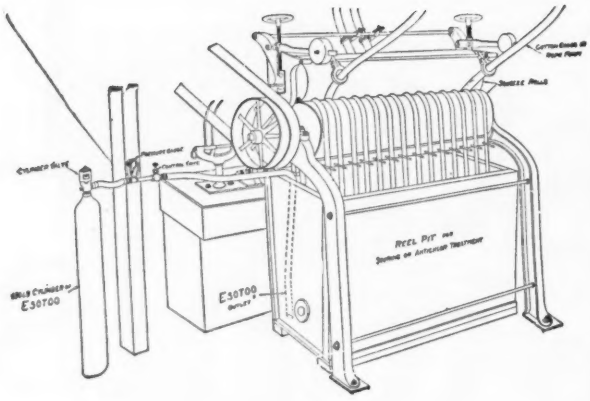

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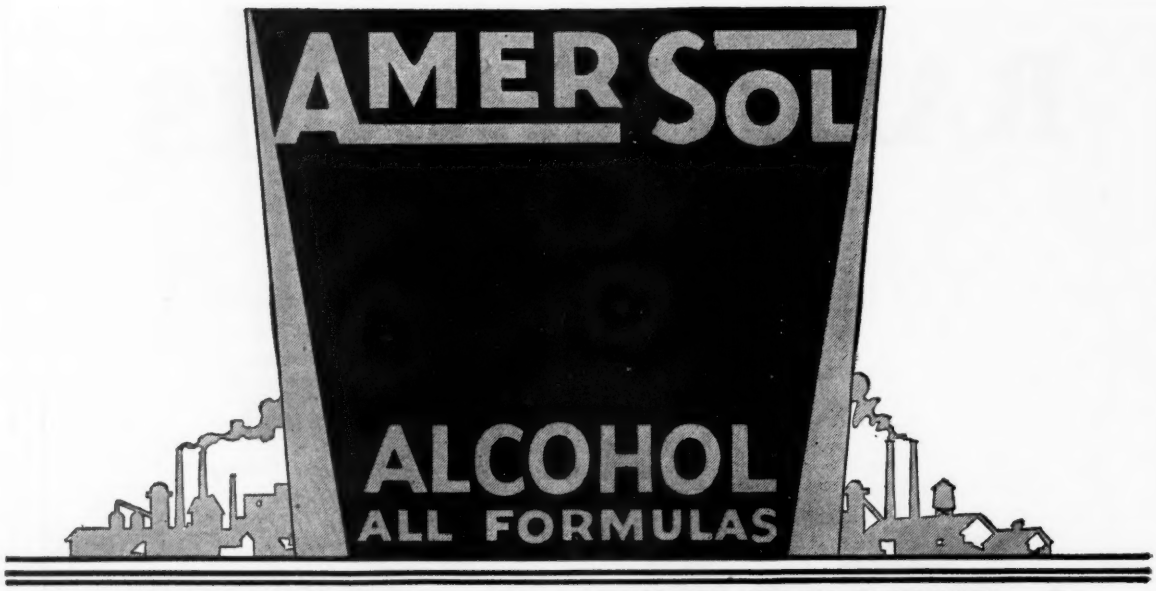

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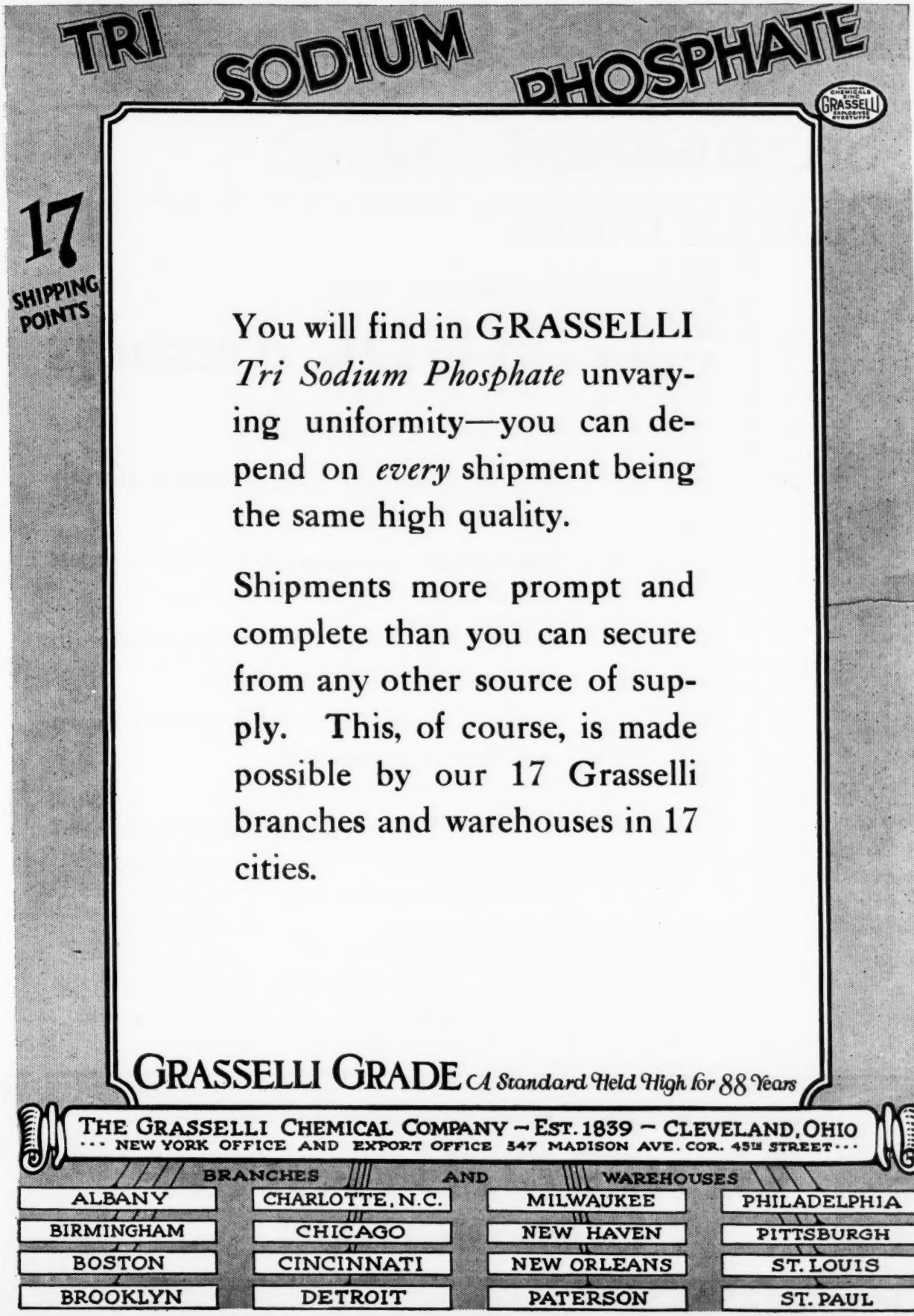
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Ammonia-Benzol Department

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Barrett ANHYDROUS AMMONIA

CHEMICAL MARKETS

VOL. XXI NOVEMBER 10, 1927 No. 19

The Cartel.

SOME events fulfill the logic of a situation so completely that they appear inevitable, and surprise should be the last emotion aroused in the American chemical industry by the formation of an international cartel in Europe. Every country abroad expanded its chemical production enormously during the war. Every country is resolutely determined to maintain chemical independence. Most countries find their powers of chemical consumption more or less curtailed. The international situation is not at all unlike the highly competitive, profitless domestic chemical market for which our American chemical companies are fighting. It is plain that the primary purpose of the cartel is going to be the self-protection of their domestic markets for its members. This thought runs between the lines of the very interesting statements from England and from France in this issue of CHEMICAL MARKETS.

WHETHER the widely announced purpose of the cartel—to reduce costs; to increase efficiency; to avoid duplication of research; to eliminate competitive sales effort—will be successful time alone can tell. There are conflicts of commercial interest. There is almost open suspicion on the part of the English and French of the I. G. There are cross-purposes of international policy. There will eventually be the clash of personalities, ideals, and ambitions.

THE threatening gesture of the cartel in the foreign markets of the Orient and South America, and possibly, even within our own borders in time, will only be made good when and if the primary objects are successfully obtained. It would be foolish to blink the fact that such a threat exists, nor can we deny that the tariff is at best a questionable weapon of defense and that we are stripped bare by the anti-trust laws of the protective armor of similar consolidations among our manufacturing interests. Nevertheless, the far-seeing executives in the American chemical industry are as little frightened as surprised in this new development.

ALREADY the projected cartel has had one direct result in America. It has aroused our industry and serves admirably to prevent our slipping into an easy-going spirit of self-complacency and self-satisfaction, a spirit that might easily be engendered by the comparative ease with which we have come through the post-war reconstruction.

THE LOWER PHENOL TARIFF

Widespread interest is attached to the announcement last week that President Coolidge had approved the reduction in the phenol tariff rate.

Coming in the midst of the furor created by the recent activities in Europe, this movement by the government is looked upon in some quarters as a bit untimely. As a matter of actual fact the original petition for a reduction in the phenol duty was entered some three years ago by a bonafide midwestern consumer and the recent ruling could hardly be traced to the activity of foreign elements. In passing it is interesting to note that since the enactment of the Fordney-McCumber tariff bill there has been more attention paid to chemical or allied products, than any other type of commodity.

While it is true that in sanctioning the finding of the Tariff Commission, the President approved the most drastic reduction permitted, that of fifty per cent—in this specific instance from forty per cent ad valorem and seven cents per pounds to twenty per cent ad valorem and three and a half cents per pound—it is also time that at present market levels both here and abroad, imported goods could not be sold at a profit on this market. With the domestic price openly named at seventeen to eighteen cents per pound and the most recent Continental market quoted at the equivalent of fourteen cents per pound, there would be no profit to importers under existing conditions.

Just what effect the reduction will have on foreign producers has not yet been indicated. Should they be tempted by the lowering of the tariff walls into lopping profit from their selling price then they will become a menace to American makers.

After all in fairness to the consumer every market should have a stabilizer of some sort and at the moment it is difficult to see any thing more significant in the phenol duty reduction than the potential presence of foreign competition at just a bit higher levels than prevailing American prices.

THE CONTRACT SEASON

The contract season is with us again. If the reports emanating from the manufacturers in the various branches of the industry may be taken as a criterion of business for 1928, everything points to a good year.

Intermediates, heavy chemicals and alkalies are all being offered to the consuming trades at new schedules. Of principal significance is the lively gait at which intermediates are moving. Practically all the items in this group are strong and makers are having no trouble in taking contracts.

In view of the very routine condition this Summer this interest can only mean an improved condition in the textile industry. Predictions of better times in the textile field have been current for some time and this willingness to contract is certainly tangible evidence of accelerated output.

The bulk of the alkali business has not yet been consummated, but as these schedules were released only recently, this is not surprising.

Word is received from Baltimore this week of the acquisition of the Pick Fertilizer Service by Davison Chemical Co. Following so closely on the heels of the Davison-Pyrites deal of last month this move emphasizes the opinion that Davison is making rapid progress toward cheaper production and better distribution.

Friends of Fred. L. Lavanburg in the chemical business were grieved to learn of his death. Mr. Lavanburg was a well known figure in the trade, retaining the presidency of the company bearing his name until the time of his death. He was greatly interested in philanthropic work and his death marks the passing of one who has done much for the charitable institutions.

[*Ten Years Ago*]

(From Drug & Chemical Markets, November 7, 1917)

The Government is urging all gas companies to equip their plants to strip the gas of its toluol. Its need for making trinitrotoluol for the artillery on the French front is insistent.

At a meeting of the creditors of Federal Dyestuff & Chemical Corp. it was announced that new capital was invested and a reorganization plan was in progess.

The Carnegie Steel Co. has raised the price it will pay for manganese ore, running 50% or higher in manganese content, to $1.20 unit delivered at the furnaces.

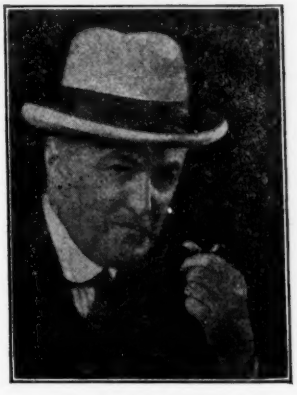
The Government now requires all toluol producers to report production as it develops so that supplies may be commandeered at once.

Kuttroff Pickhardt & Co. Inc. has purchased from Badische & Co., its stock of dyestuffs, and has taken over its staff and laboratories.

Senator Pomerene will endeavor to induce Congress to pass the bill intended to legalize a combination of exporters for foreign trade.

Union Carbide & Carbon Corp., Niagara Falls, has been incorporated in New York with 3,000,000 shares common stock; active capital $15,000,000.

Department of Water Supply New York City, accepted a bid of 12.70c lb. to supply 108,000 lbs. liquid chlorine.



British Chemical Progress

Summarized for 1927 by W. J. U. Woolcock, C. B. E.

AT first sight, the history of British chemical industry during the past ten months, especially if reviewed from the manufacturers' standpoint, would probably be classed as one of the least interesting since the war. At the present time a sense of relief is being felt at the incidence of its closure.

Yet on closer examination it becomes clear that there have been developments and changes which are as important as any that have been made since the war period, and of course, more important than any before that time. These developments reach into every branch and aspect of the industry including legislation, international relationships, new products, new companies, amalgamations, and overseas trade. Let us examine some of these changes more in detail.

For one new and significant change the year will long be remembered. It is true that the announcement of the combination, which has become known as the "I. C. I." was made late in 1926, save apart from possibly interesting but generally uninformed publicity given to the subject in the daily press, the effect of the amalgamation has only very gradually come to be felt by those not directly concerned. Even now the position is neither finally or temporarily stationary, and in a sense the amalgamation process is incomplete. Nevertheless, while the member firms have been readjusting themselves individually, the combination has worked as such during the year, and at this comparatively early date it is possible to affirm that the misgivings of the early prophets have been completely negatived by abundant evidence of many positive beneficial influences arising out of the consolidation. With a highly efficient representation which is world wide, the advantages of the amalgamation became almost immediately felt throughout all countries, and this has lead to a universal feeling of confidence in the future history of chemical industry.

In another important section of the industry we find an important unit in the Yorkshire Tar Distillers, which has been growing rapidly during the last year or two, until it now represents almost the whole of the tar distilling interests of the country. In as much as the region covered is one of the most important in this section of the industry, the move is of first importance to the tar distiller, though there is of course no question of monopoly of the trade in the movement.

A considerable and increasing amount of speculation on both sides of the Atlantic has arisen on the relationships, actual and possible, between British and Continental chemical interests, but it is too early at the present moment to say what developments will take place and to add to the already extensive and unreliable speculations is worse than useless. The subject cannot be passed over, however, without some mention of the conversations and conferences of British and Continental industrialists generally, which have been a feature of the past twelve months especially, and which have in no small degree helped to establish that exceptionally friendly spirit which prevades European industry, and which will do more to settle the anomalous conditions which today hamper international chemical trade and in fact, almost all overseas business.

Written for CHEMICAL MARKETS *readers the very week before the German - British - Franco chemical cartel was announced, there attaches a significant interest to what the manager of the Association of British Chemical Manufacturers says here of Great Britain's foreign chemical trade and the first year's practical operation of the Imperial Chemical Industries, Ltd,, and he raises a provocative question in the practice of British chemical apparatus makers to individualize installations as compared with standardized American equipment.*

A short review of the chemical exports of the United Kingdom might be of interest as showing the trend of matters of universal significance. After 1919 and 1920, when it will be remembered there was an acknowledged boom period, chemical exports have risen to some $125,000,000 and later declined gradually to rather more than $100,000,000; this year it is not likely that there will be any material change from 1925.

In view of the difficult trading conditions existing since 1920, due to abnormal currency fluctuations in the countries of some of our most important customers, and the keen competition during the world-wide depression of 1921–22, the record is not unsatisfactory. Up to 1925 competition for premier place in chemical markets was between England and the United States; but by increasing exports more than 50% in 1926, Germany far outran both competitors.

Without the coal strike of last year, the position of the United Kingdom would probably have been materially ahead of previous years, because, in spite of the exacting conditions during the greater part of the year, the export trade was not appreciably different from that of 1925. This year, the after effects of the strike proved to be as serious a brake on trade as the strike period itself. Nevertheless, while exports have varied in activity to a remarkable extent, the tendency has been always towards expansion of

trade, and it would seem that within the last month or so, a permanent improvement in conditions has been established.

Holding the Chemical Trade

England is still as prominent as ever in those chemicals which have formed a broad formation of its export trade —crude coal tar products, (tar, pitch, carbolic acid, and creosote), alkalis, painters materials, and medicinal fine chemicals. At the same time there has been such a rapid improvement in exports of ammonium sulfate and bleaching powder since the strike that one concludes that a still bigger market for these products is opening out to the British manufacturer. At least, the grave doubts of the early part of the year concerning the recovery of Eastern ammonium sulfate markets are entirely dispelled.

Particularly interesting to the reader of CHEMICAL MARKETS is our position with respect to Canadian trade. In this case, of course, conditions very highly favor American exports, especially in the case of heavy chemicals, in the trade of which transport factors are against us. Nevertheless, Great Britain has a footing in the markets for most imported chemicals; and in those substances into the trade of which the cost of transference does not materially intrude, this footing is more firmly established than ever. Altogether, therefore, the over-seas trade position is not at all unsatisfactory to British Chemicals.

Fine Chemicals Flourish

Potentially, at the beginning of the year, List H (ii) was published. This represents the additional chemicals which are liable to duty under the Safeguarding of Industries Act. We mention it here as evidence of developments which have been taking place during the past few years; to those who appreciate the significance of the additions, the list contains ample substantiation of the claim that the British fine chemical industry is more than simply an established section of chemical industry, and that it is forging ahead rapidly.

The Therapeutic Substances Act, together with the Regulations governing the manufacture and sale of these products, has been the subject of considerable attention during past few months. The proper conduct of various manufacturing processes concerned is, of course, of first importance in view of its immediate influence on the public welfare, and the attention which has been given to the subject by the Government Departments concerned is a measure of the growth of the industry in this country. The number of products which have been added to the list of Therapeutic Substances during the past two years is—for this section of the industry—quite large, and ranges from the new compounds of arsenic applied in the treatment of infective disease, to vaccines, antitoxins, pituitary extract and antidiabetic bodies such as insulin, and thyroxin.

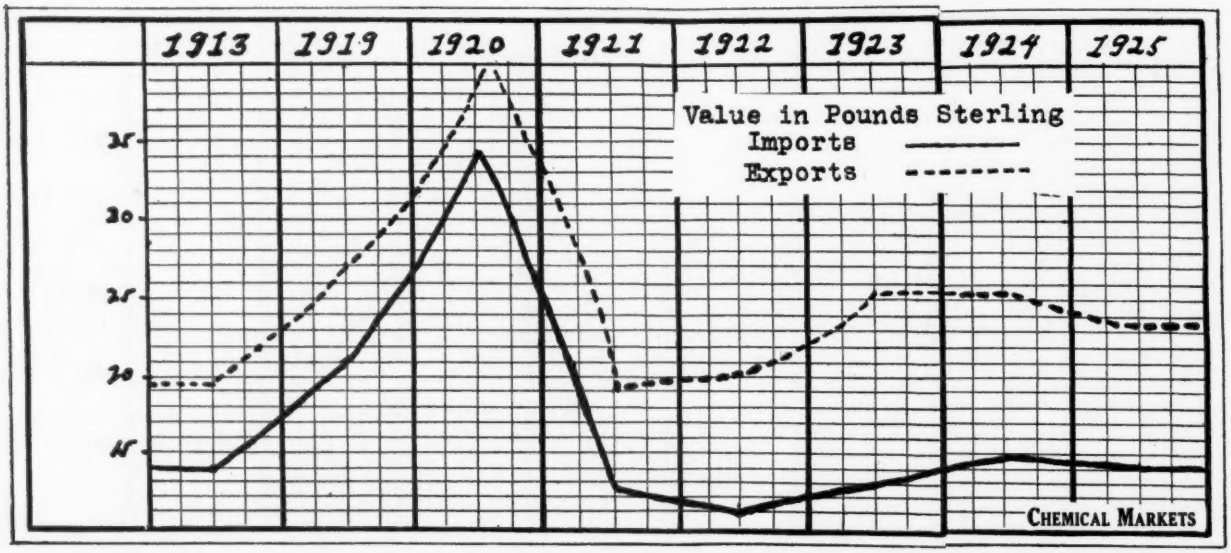
In particular the last class—antidiabetic substances—deserves closer attention. Up to quite a recent date, it was recognised that the industry in this country could claim only a secondary place in world markets, and that almost hourly, the position was becoming more acute. It will be easily recognised that every stage-collection of crude product, sterilization, manufacture, packing etc.—which precedes the actual consumption of chemico-therapeutic substances demands the careful supervision of highly skilled technical experts and that in consequence, the question of developing manufacture comes in for very careful deliberation before decisions are made. When therefore, the relation of Great Britain to world markets was most acute, the problem was additionally complicated; and in addition the rapid progress which was being made in technique and research on therapeutic chemicals made any advance programme highly speculatory. With these difficulties before them British manufacturers took the step forward which has been notably successful; so successful in fact that within the course of a few months reports were coming in from all over the world that British insulin was being demanded in preference to that from other sources.

New Synthetic Medicinals

The reader is probably beginning to think that after all, this is but a very small section of the chemical industry, but we must stay to point out the still more phenomenal history of thyroxin. It will be recalled that late n 1926, thyroxin was synthesised by a British chemist; previous to this the extract marketed was initially of natural origin, but within the course of a few weeks, the synthetic product was being produced in commercial quantities, and so a quality which carried with it all the advantages bestowed by a synthetic process of manufacture was available to the public almost immediately.

We watch daily for a synthetic insulin process, and with "synthalin" already well on towards the solution of the problem the search promises to be rewarded in the near future; in the meantime we rest confident of the capabilities of British manufacturers to cover the new ground which

(Continued on page 676)



Figures given in the above chart are for millions of Pounds Sterling and show a marked similarity between the trends of imports and exports.

The Cartel and France

By J. H. Lucas

General Secretary, Bureau, E. I. A.

Why did France enter the the Cartel? Competitive pressure which has virtually forced the French chemical industry into the Anglo-German cartel in view of the expanding chemical production in France and the curtailed opportunity for foreign trade is analysed by a man in close, constant touch with industrial developments in Europe.

THE French chemical industry has shown a remarkable development in all its branches, in the course of the last three years. The efforts made during the war, and since the Armistice, have completely altered the situation existant in 1914, but it should be remembered that in 1914, contrary to what was sometimes stated, France had already very important elements of production. The great abundance of French supplies of pyrites, the existence of very important supplies of sodium and the easy way by which we were able to obtain certain raw products, such as phosphates, assured a rather favorable situation for the big French chemical industry.

In 1924, Germany had already sought to approach France with reference to potash. That move has resulted in the convention, with which everyone is familiar, but competition still remains very strong on all other markets. The radical alterations in the customs tariff since the war had placed France in the utmost confusion in this respect. The basic duties no longer corresponded with French currency. The very considerable increase in specific duties, and the changes in French industries often rendered the customs regime either prohibitive or else no protection at all.

The situation appeared still more intricate owing to the German deliveries in kind, which caused some products to enter France witnout paying any customs dues at all. Another important factor was that the French industry at that time was not in a position to meet the demand for domestic consumption. France was therefore obliged to import a certain number of products which she needed, until such time when she would be able to supply them herself, both with regard to semi-finished products and also those for immediate consumption. The question was whether or not France would maintain heavy entry fees for these products. Evidently not, because they were not in direct competition with French products, and she had absolute need of them. Germany did not fail to take reprisals not only with regard to chemical products, but also in other industries exporting to Germany.

It is evident that a constant fight on the export market cannot continue for any length of time. It entails a reduction in sales prices and continues with fantastic price cuts, which generally ruin the two conflicting producers.

For a long time the possibility of an economic agreement with Germany has been considered. First, a provisory agreement was concluded, the negotiations of which were begun in 1924, and was put into operation in 1926.

The results of this first experience having proven satisfactory, a new provisional agreement was reached, and finally an entente on a much larger basis was concluded.

The task of the French negotiators was particularly intricate because of the French tariff bill—a reform, which is not yet completed.

As a matter of fact, if the general tariff were not applied to German products, neither could the minimum be applied to all products.

High tariff duties for German products would have placed both the French and German industries in an awkward position, but if too low a tariff were applied, French producers would find themselves in a very bad position. Thus, it was necessary to find a formula for each category of products in order to reach an agreement, which would be a medium between the two extremes.

The first entente, which was put into operation on April 15th, 1926, gave both countries advantages for the export of a certain number of articles; a favorable tariff for the importation into Germany of a certain contingent of French foodstuffs, and the minimum tariff for the importation into France of certain chemical products.

This first and tentative arrangement, however, had a significance which was shortly to become more definite. The principle of an entente was accepted. The primary diffculties had been overcome, but a more lasting solution, shaped in a better form, still remained to be found. This was the problem studied during a period of many months.

Negotiations, therefore, continued in order to reach a more general customs tariff, which would be ratified by the adoption by parliament of a new tariff; still under discussion.

French Parliamentary Action

But the parliamentary recess in France was drawing near, and no definite decision was taken. Representatives of the German industries had succeeded in establishing with the British chemical industries the first basis for a possible agreement, and France was now in a very dangerous position, being confronted with a very unexpected coalition.

The French parliament was forced to give full power to the government in order that a final decision might be reached, in the latter part of August. Failing that ultimate decision, France would have been in a state of economic war with Germany, and the situation this time might have proved very dangerous, because of the existence of the Anglo-German agreement.

The agreement which has been signed provided for a very long list of chemical products, and others, for which the French custom tariffs have been modified.

In order to arrive at an equitable entente, it was necessary to abolish the system of "authorizations", which, ever since 1919, had been strangling French imports, especially pharmaceutical products. This system of licenses exists only for a series of dyestuffs and for secondary dyestuffs, specified in the protocol. The licenses will remain in operation provisionally until the termination of the London agreement, which expires on August 15th, 1928. At that date, Germany will suppress the license system for the importation of French dyestuffs into Germany, but we should

state here that for all other products, the licenses have ceased to exist, as from September 6th, 1927.

The new French tariff bill provides tariffs for a certain amount of nitrogenous products, for which the tariffs were formerly lower, or else non-existent. Part of these fertilizers are not included in the treaty, but it has been agreed that Germany would also obtain for these products the most-favored-nation treatment as soon as they come under a new French customs tariff. The French government has undertaken not to demand duties on these products higher than 15 per cent ad valorem. If the French parliament were to fix a higher tariff, Germany would have the right to demand the immediate opening of negotiations in order to compensate for the damage which she would thus undergo, and would also have the right to renounce the agreement, by giving two months' notice. Germany would have the same right in the case of a tax being levied on sulfate of ammonia or nitrate of soda.

But the tariff question is not the most important in this agreement. What would appear to be the dominant idea is the will to reach an entente, independently of all supremacy, and this leads to the possibility of collaborating on the world market.

Germany now recognizes the very remarkable progress achieved by the French chemical industries, and pledges herself, in a certain measure, to abstain from competition, up to a specified point. France will retain the objectives which have been hers up to the present, which assures a certain security to her producers, who, on one hand, will hold their outlets in foreign countries, and on the other, their increased production will be absorbed by domestic consumption. In its entirety, the present agreement therefore has certain advantages for the French chemical industry.

In compensation, Germany will be able to import into France at more favorable tariffs, the chemical products which France still requires, until such time as her industrial program has been realized.

The tariff bill shortly to be voted by the French parliament will no doubt bring about a few readjustments, but the real adaptability of this accord will be supplied by the individual accords between the producing groups of the two countries.

Thus, the terms of an entente have been agreed upon which does not only concern the chemical industry, but which also raised very important problems in the metallurgical, electrical and mechanical field, as well as the textile and agricultural industries.

In the face of the German centralization formed in view of the realization of well conceived programs, French industries were represented by divergent interests who had too often only grouped themselves together for the sake of form. The French individualistic spirit is still much in evidence, but the future seems to be for those who know how to group themselves together in order to follow a common objective. Technically, the chemical industries are inter-dependent. It is quite impossible to split them up when their commercial organization is under discussion. We must acknowledge the very wise views of the German leaders of industry. France can still profit by their example. Their methods have enabled a country which was demoralized by defeat, disorganized by revolution and severely burdened with debt, to retain those elements which would most certainly ensure its recovery.

The British producers also now understand the necessity of uniting. The individual cells of an industry, if banded together, can form a very powerful organization. A movement in this direction may be detected in the principal countries of Europe, and France must not be left out of it. England, on the other hand, is not a stranger to these conventions. An agreement between the three great countries on the dyestuffs market would appear probable in the near future,

[*New Incorporations*]

Mead, Paton & Co., Ltd., Montreal Quebec, $500,000 pulp and paper, William H. Howard, Charles R. McKenzie Claude S. Richardson.

Elite Knit Goods Ltd. Toronto Ont. $400,000, textiles, Leonard Love, Rose Levinter, Sadie McMenamin

Georgetown Coated-Paper Mills Ltd., Georgetown Ont. $150,000 and 10,000 shares of no par value, paper and paper products. Harold E. Steele, Norman S. Robertson, Clifford H. Lane.

The Reliable Silk Company Ltd., Toronto, Ont., $40,000, textiles. Joseph Marin, Sonia Marin, Eva Jackson.

U. S. Chemical Laboratories, Newark, N. J., $350,000 Gillen & Co., Newark.

Salvarex Co., Inc., Hoboken, N. J., chemicals, 150,000 shares pf, 100,000 shares common. Pierson, Schroder & Brand, Hoboken.

Eagle Oil Co. of Delaware, Wilmington, Del., 1,000 shares no par. Corp. Trust Co., of America, Wilmington.

Pex Products Co., Buffalo, furniture polish, $100,000. Bartholemew & Bartholemew, Buffalo.

Buffalo Fireworks Corp., Buffalo, $10,000. C. A. Hahl Buffalo.

Tri-Chemical Co., Newark, N. J. chemicals, $100,000. Kreamer & Siegler, Newark.

General Chemical Products Co., Newark, N. J. 100 shares common, Simon Englander, Newark.

Old Masters Laboratories, New York City, chemicals & drugs, $50,000. H. Chaityn, 1501 Broadway, New York.

Solvit All Corp., Wilmington, Del., chemicals, 10,000 shares common. Del. Registration Trust Co., Wilmington.

Interstate Silica Products Co., Jersey City, N. J., 5,000 shares common. Register & Transfer Co., Wilmington.

Agricultural Lime & Trap Rock Corp., Dover, Del., $700,000. Corp. Trust Co. of Delaware, Dover.

Vulcan Rubber & Chemical Co., New York City, $200,000 pf., 3000 sh common. T. B. Jenkins, 1202 2nd Ave., New York.

Pacific Marine Chemicals, Chicago, $100,000. Corp. Maintenance & Service Co., Wilmington.

Blackman & Blackman, New York City, drugs and Chemicals, $60,000. W. Karlin, 291 Broadway, New York.

Technical Color Corp., New York City, chemicals, $10,000. Littman & Hertzoff, Jamaica, N. Y.

Blendsco, New York City, oils & chemicals, 200 shares common. Hartman, Sheridan & Tekulsky, 285 Madison Ave., New York.

Sulphur Products Co., Wilmington, Del., $3,000,000. Corp. Service Co., Wilmington.

International Chemical Corp., Arden, Del., 10,000 shares common. Wm. F. Schwartz, Wilmington, Del.

Colonaid Co., New York City, chemicals, $50,000. Universal Charter Co. of Delaware, Carter.

G. & H. Products Corp., New York City, paints & varnishes, 200 shares common. H. G. Kosch, 383 Madison Ave., New York.

Williams Laboratory, Buffalo, chemists, 200 shares common. R. C. Williams, Buffalo.

Canada Crayon Co., Ltd., Peterborough, Ont. $50,000, inks, paints etc. Robert R. Hall, Henry Humpage, Roy R. Taylor.

Elcures Ltd., Toronto. Ont. $50,000; drugs and chemicals. Frank W. Richardson, Wm. C. H. Swineburne, Stephen Clements.

Whiteshore Salts and Chemical Company Ltd., North Battleford Sask. $25,000. Daniel H. Bain, Henry Parsons and Wilbur Fisher.

Brown's Beverages Ltd., Gravenhurst Ont. $40,000, Charles Brown, John E. Brown, and John D. Brown.

Pacific Rubber Specialty Mfg. Co., Oakland, Cal., $25,000; P. C. Steinmetz, W. T. Powell, W. L. Powell.

Landers Ltd., Guelph, Ont., $150,000 and 100,000 shares. no par textiles. Geoffrey W. Adams, Percy E. F. Smily, Francis J. Sullivan.

Ontaria Radium Corp., Toronto Ont., $75,000 and 60,000 shares no par. Wilfred C. James, Graham T. Evans, Warwick H. Noble.

Coutlee-Muir Rubber Corp., Ltd., Montreal Que. 25,000 shares no par, rubber products, Joseph A. Bariteau, Paul E. Lanctot, Raymond Godin.

Chemical Distributors Ltd., Moose-Jaw., Sask. $50,000 and 10,000 shares no par, chemicals, Howard S. Cawsey, Gordon J. Allison, Arthur A. Porter.

Torbanite Products Ltd., Montreal, Que., 100,000 shares no par, chemicals. George H. Kent, Hallowell M. Brown. Robert A. Calvin.

Cleaneteria, Lanncaster, Pa., cleaners & dyers, $15,000. H. A. Kulowski, Buffalo.

Leus Co., Washington, D. C., minerals, $200,000. Capital Tr. Co. of Delaware.

Herlig Chemical Corp., New York City, $10,000. Bijur, Hertz and Steinberg, 19 W. 44 st., Manhattan.

Fritsche Corp., chemicals, New York City, 100 sh. common, C. Weg, 2 Lafayette St., Manhattan.

Glaeser Research Corp., chemicals, New York City, 100 sh. common, Phillips & Avery, 41 Park Row, Manhattan.

Consolidated Wood Products Co., Wilmington, Del., wood and paper products, $200,000. Corp. Trust Co. of Am., Wilmington.

Nervo Rumat Laboratories, chemicals, New York City, $150,000 pf., $15,000 common and 1,750 sh. common. B. Austin, 302 Broadway, Manhattan.

Bartlesville Silica and Marble Co., Wilmington, Del. $25,000. Delaware Registration Trust Co., Wilmington.

Piedmont Print Works Inc., Wilmington, Del., textile $1,000,000. Delaware Registration Trust Co.

Choosing Lacquer Solvents

The Accompanying Article Deals With Lacquer Solvents in Much the Same Manner as That on "Lacquer Plasticizers" in Our October Issue, Giving Valuable Data on Solvents Used Throughout the World.

SOLVENTS as well as plasticizers play a very important role in the manufacture of lacquers. In fact it is not possible to separate the two substances as far as their effect on the properties of the finished product is concerned. In other words the properties of the finished product is rather the resultant of the actions of the solvents and of the plasticizer. It is therefore very difficult, to trace the quality of the lacquer, or rather one or the other of its special properties back to the use of a special solvent or plasticizer. This property must rather be considered as being due to a combination of the two. If it is desired to give the lacquer certain properties, this can of course be done by selecting some special solvent or plasticizer, but care must also be taken to select the proper solvent or plasticizer to go with either one or the other so that the good effects of the added substance will be retained and will be properly manifested in the properties of the finished product.

Many Plasticizers and Solvents Available

It has been indicated that there are a large number of plasticizers which may be used in the manufacture of lacquers. The number of solvents that may also be employed in this manufacturing process is even greater than the number of plasticizers. Within the past few years many solvents have been introduced and the manufacturer is hard pressed to make a proper selection.

The function of the solvent is complicated by the fact that the lacquer is made not only from a nitrocellulose or cellulose acetate base,—and the solvent will also vary in accordance with the character of the cellulose derivative used—, but also contains a resin, either natural or synthetic. The solvent does not evaporate completely from the lacquer but a portion of it must remain behind in the film to render it elastic and adherent to the surface on which it is applied. However this residual solvent will evaporate in time and the film will gradually harden and finally become brittle and peel or break off the applied surface. It is to prevent this from happening that the plasticizer is added.

Solvents and Diluents

A further distinction must be made between solvents and diluents.The solvents have been considered to be those substances which dissolve the cellulose derivative, that is nitrocellulose or cellulose acetate, while the diluent dissolves the resin. It is possible at times to use solvents which will dissolve both the resins and the cellulose ester.

Solvent are divided into two classes, those that boil below 100 degrees C, known as volatile, and those that boil above 100 degrees C, known as slightly volatile.

Each of these groups of solvents has its special function to fulfill. The volatile solvents hold the cellulose esters in solution and assure the fluidity of the lacquer so that it flows easily from the brush or the spray. They also insure the rapid drying of the lacquer after it has been applied. Furthermore, not the least of their functions is to reduce the cost of the lacquer for the volatile solvents are as a general rule less expensive than the slightly volatile solvents.

Slightly Volatile Solvents

The slightly volatile solvents tend to promote the elasticity of the lacquer film and render the film less apt to become brittle and peel within a short time after application. Their presence in the lacquer also prevents it from becoming turbid.

While it may appear that the boiling point will alone determine the properties of the solvent, nevertheless a closer study will revail that it does not always indicate the rate at which the solvent will evaporate. In other words it is necessary to know this rate in order to make proper selection of solvents for a given purpose. The rate of evaporation is the important property of the solvent. It is understandable that in the lacquer the solvent is mixed with other substances which tend to affect the rate at which it evaporates. The solvent must evaporate quickly. This appears to be its most important requirement.

There are other properties of solvents which must be taken into consideration. Some solvents are made in processes which require the use of acid, for example sulphuric acid, for purification purposes. It is understandable that the presence of acid in the solvent will have a detrimental effect on the cellulose ester, even though the amount of acid present in the solvent may be very small. The acid may not only decompose the cellulose ester but it will also attack and corrode the surface on which the lacquer is applied. This is a particularly undesirable condition in as much as the lacquer has for one of its purposes the protection of this surface from corrosion. The solvents should also be able to mix in practically all proportions with the diluents that may be added to the lacquer composition. Furthermore the solvents must hold the nitrocellulose or cellulose acetate in solution in spite of the presence of diluents and resins, and finally they should not precipitate the latter from their solutions.

The hygroscopicity of the solvents is also an important property. If they will absorb a certain proportion of moisture from the air, like butyl alcohol, and from a constant boiling point mixture with this water, they will prevent the clouding of the varnish due to atmospheric moisture.

Ratio of Solvent to Diluent

An important detail in the use of solvents in the manufacture of lacquers is their addition in certain definite proportions with respect to the quantity of diluents present in the mixture. Too great a proportion of one or the other may cause turbidity in the lacquer, due to the precipitation either of the resin or of the cellulose ester. This may be caused by the too rapid evaporation of the small amount of solvent present in the lacquer with the result that the nitrocellulose precipitates although there is still plenty of diluent left in the lacquer. It very often happens that such

an effect can be counteracted by using the proper kind of solvent with respect to the diluent, that is a solvent whose boiling point is not so low, so that it take longer for it to evaporate. On the other hand it is also possible to use more of the solvent, so that it remains longer in the varnish but this is an uneconomical procedure.

The entire question of solvent balance, as it is called, is one of great importance in determining the properties of the varnish or lacquer. It is a fact that at times this balance is what determines whether or not a lacquer will be of value or not. All sorts of faults and disadvantageous effects known as water blush, gum blush, cotton blush, improper drying time, poor flow, orange peel, and many others like these may be brought about by an improper solvent balance. The great difficulty is that there is still insufficient scientific data available on the behaviour of a lacquer and the solvent in it so that it is not possible to determine beforehand by correct adjustment of solvent mixture just what properties the lacquer will possess, or to make a lacquer of predetermined properties by suitable adjustment of the solvent.

There is one point that must be made in evaluating solvents. There is quite a difference between the boiling point of a solvent and its rates of evaporation, which has been explained above to be a determinative factor in the selection of solvents to perform a certain function in the lacquer. In other words the vapor pressure of a solvent is not a true measure of its volatility. Thus two solvents possessing the same vapor pressure or boiling points will not volatilize at the same rate unless their molecules are equal in weight, and their latent heats of vaporization are equal. That solvent which has the greatest molecular weight will vaporize the most rapidly.

Toleration of Solvent

The fact that the solvent or rather that the solution of the nitrocellulose or other cellulose ester will tolerate the addition of a certain amount of diluent without precipitating or being deleteriously affected in other ways has been mentioned above as being influenced to a large degree by the character of the solvent and of the diluent as well. There are however other factors, which control this behaviour to a greater or lesser degree. The nature of the cellulose ester is one, while the concentration of the latter is another. Similarly the temperature at which tests are carried out will also determine the nature of the results obtained. Furthermore the character of the gums or resins that are dissolved along with the nitrocellulose or cellulose acetate in making lacquers and varnishes is of considerable importance in this connection.

The Glycols

Nitrocellulose has been known to be soluble in a mixture of alcohol and ether and the manufacture of smokeless powder, collodion solutions and other similar nitrocellulose preparations have been based on this property of the nitrated cellulose. However there are many reason why it would not be advisable to use this mixture for the dissolving of nitrocellulose in lacquer manufacture. Hence other solvents have been sought for this purpose. It was natural however to expect that the chemical substance which would combine in its structure the characteristics of an alcohol and an ether would give the best results. The glycol esters are substances of this character, they being made by the combination of an alcohol and an ether. Recently more attention has been paid to these substances as solvents in lacquer industry and particularly to their acetate derivatives.

Both methyl glycol and ethyl glycol, simplest members of this group of organic chemicals, are colorless, neutral fluids which will mix with water in all proportions. The odor, always an important characteristics of these substances

(Continued on Page 640)

Who's Who in the Chemical Industry

Verner A. Belcher, sales eng., N. J. Zinc Sales Co., Chicago, Ill. Born: Milan, Mich., June 17, 1885. Educat.: B. Ch. E. Univ. of Mich., 1911 Mar.: Deborah Fullam, Brooklyn, N. Y. Sept. 28, 1917. Children: two sons. Bus.: Western Electric Co. 4 years, res. chemist & chem. eng.; research work on metal coatings, 2 years; N. J. Zinc Co. & N. J. Zinc Sales Co., 10 years, sales eng. Mem.: Amer. Chem. Soc.: Phi Lambda Upsilon; Sigma Xi.

Robert S. Bradley, chairman of Board, American Agricultural Chemical Co., New York. Born: Meriden, Conn., Feb. 22, 1855. Educat.: Harvard Coll., A. B., 1876. Mar.: Leslie Newell (deceased) Arlington, Mass., Dec. 15, 1881. Children: three daughters, one son. Bus.: treas. Bradley Fertilizer Co., 1878-1885; pres. 1895-99. Mem.: Union Club; D. T. A., Recess, University Club of N. Y.; Union Club, Boston; Myopia Hunt, Country Club of Brookline, Essex County, Harvard, Union Internationale of Paris.

Marshall Dill, pres., Marshall Dill, Inc., San Francisco, Cal. Born: San Francisco, Oct. 9, 1882. Educat.: Univ. of Cal. Mar.: Edna Fay, San Francisco, Sept. 30, 1914. Children: one son. Bus.: pres. Dill-Crosett, Inc., 18 years; presd. Dill-Coppage, Inc., 5 years; pres. Dominion Oil Co., 15 years. Mem.: v.p., San Francisco Chamber of Commerce, 1922-23; v.p., Nat'l Paint, Oil & Varnish Assn., 1926; Bohemian Club of San Francisco, Olympic Club, Lakeside Golf Club, Main County Country Club, Meadow Club of Tamalpais. Hobbies: golf, books, paintings.

William Griffith, sales mgr., American Linseed Co., and Pacific Oil & Lead Works, San Francisco, Born: Donegal, Ireland, Oct. 2, 1882. Educat.: National schools; San Francisco Law school; La Salle Ext. Univ. Law Dept. Mar.: Mildred Kathleen Knight, Salt Lake City, June 6, 1916. Children: son, daughter. Bus.: office boy Donegal Ry. Co. 1898; 1902-05, chief clerk Londonderry & L. S. Ry Co.; senior accountant, Interstate Commerce Com., 1914-21; present position since 1921. Mem.: Golden Gate Paint, Oil & Varnish Club; shriner. Hobbies: fishing, hunting.

Albert A. Harrison, pres., Borden & Remington Co., Fall River, Mass. Born: Fall River, Nov. 22, 1873. Educat.: grammar school. Mar.: Cora B. Vestal, Fall River, June 30, 1909. Children: three. Bus.: dir., Fall River Nat. Bank; Fall River Electric Lt. Co.; Eastern Mass. St. Railway; trustee, Fall River Savings Bank. Mem.: Quequechan Club, Fall River Country Club, R. I. Country Club, Rotary Club, Appalachian Mtn. Club, Vesper Country Club, Nat. Republican Club, Laymen's League. Hobbies: golf.

Harry Hinkel, pres., Hinkel & Ewing Mfg. Co., Phila. Born: Phila., Nov. 16, 1887. Educat.: Phila. Central High School, Univ. of Penna. Mar.: Margaret M. Boyle, Phila., April 15, 1912. Children: five, Bus.: W. H. & F. Jordan, Jr. Inc., 1911-19; secy. & treas., W. H. Brey Mfg. Co., 1919-21 Mem.: Cedarbrook C. C., Penn. A. C., Manufacturers Club. Hobbies: baseball, fishing.

Adrian D. Joyce, pres., Glidden Co., Cleveland. Born Sumner, Iowa, Nov. 18, 1872; mar., Anna Page, Stafford, N. Y., June 8, 1897; child., four; educat., Univ. of Mich. Public Record: Paint & Varnish Div. War Industries Board; dir., Cleveland Cham. Commerce. Clubs, Union, Mid-day, Mayfield, Cleveland Country. Hobbies, golf, travel, horseback riding.

Dye Supplement Released

(*Special to* CHEMICAL MARKETS)

Washington, D. C., Nov. 9—Supplementary Dye List No. 34 has been sent by Acting Commissioner of Customs, Frank Dow, to collectors of customs throughout the country. The list which follows together with the key to abbreviations shows the standards of strength and imported products identical with the standard. The standard product is listed first and the identical product is indented immediately under each standard.

No.	Class Index	Name of Standard	Mfr.
1ba	(B)	Acridine Flavine R	(DH)
		Acridine Flavine RD	(DH)
2ba	(D)	Benzo Dark Green B	(By)
		Diamine Dark Green N	(IG)
3ba	(L)	Bromofluoresceine A3G	(M)
		Bromofluoresceine extra A	(IG)
4ba	(D)	Chlorantine Fast Orange 2 RL	(J)
		Chlorantine Fast Orange 2 RL conc.	(J)
5ba	S.631 C.888	Chromocyanine B	(DH)
		Chromocyanine BC	(DH)
6ba	(V)	Cibanone Bordeaux B 20% paste	(J)
		Cibanone Bordeaux B pastes & powder	(J)
7ba	(A) (M)	Cyananthrol RB	(B)
		Alizarine Direct Blue RBX	(IG)
8ba	(D.d)	Diazo Geranine G	(By)
		Developed Geranine G	(IG)
9ba	(V)	Indanthrene Brilliant Orange RK 16-2/3% paste	(IG)
		Indanthrene Brill. Orange RK pastes & powder	(IG)
		Vat Brill. Orange RK Pastes & Powder	(IG)
10ba	(V)	Indanthrene Red BLX 20% paste	(IG)
		Indanthrene Red BLX Pastes & Powder	(IG)
		Vat Red Violet RRN new, psts & Powd.	(IG)
11ba	(SV)	Indigosol Pink HR ex.	(DH)
		Indigosol Pink IR extra	(DH)
12ba	(Sr)	Indo Carbon CL	(C)
		Indo Carbon CL conc.	(IG)
13ba	C.538	Oxydiamine Black N	(C)
		Oxydiamine Black N	(IG)
14ba	(Sr)	Pyrogene Blue Green B	(J)
		Pyrogene Blue Green B conc.	(J)
15ba	C.324	Rosanthrene Bordeaux B	(J)
		Rosanthrene Bordeaux B conc.	(J)
16ba	(D.S.)	Soluble Blue 3R	(M)
		Soluble Blue 5 R conc.	(IG)
		Soluble Blue 5 R extra conc.	(IG)
17ba	(A)	Wool Violet RC 682	(G)
		Lanasol Violet R	(J)
	Additional Names of Dyes Corresponding to Dyes Already Adopted as Standards.		
2	(M)	Acid Aliz. Grey G	(M)
		Autochrome Grey G	(IG)
21	S.527 C.695	Acid Violet 4 BN	(B)
		Brilliant Benzyl Violet 3B	(J)
37	S.820 C.1135	Algol Brilliant Violet R 12½% paste	(By)
		Vat Brill. Violet RK pastes & Powder	(By)
72	C.1032	Aliz. Claret R 20% paste	(M)
		Aliz. Claret Red R Pastes & Powder	(IG)
99	S.852 C.1073	Aliz. Irisol R	(By)
		Aliz. Fast Violet R	(J)
105	S.780 C.1034	Aliz. Red S	(B)
		Aliz. Red S Z	(S)
124	S.536 C.704	Alkali Blue 3 R	(C)
		Alkali Blue 3 R conc. 175	(IG)
133	(V)	Anthra Scarlet G 16-2/3% paste	(B)
		Vatamine Scarlet 2 B Pastes & Powder	(C)
189	(D)	Benzo Fast Grey BL	(By)
		Direct Fast Grey BL	(IG)
91	C.353a	Benzo Fast Heliotrope 4 BL	(By)
		Triazol Fast Heliotrope 4 BL	(IG)
194	(D)	Benzo Fast Orange 2 RL	(By)
		Triazol Fast Orange 2 RL	(IG)
198	C.278	Benzo Fast Red 8 BL	(By)
		Rouge Diazol Lumiere N8B	(Kuhlman)
		Chlorazol Fast Red KX	(BDC)
204	S.279 C.326	Benzo Fast Scarlet 8BS	(By)
		Diamine Fast Scarlet 8 BS	(IG)
208	C.349a	Benzo Fast Yellow RL	(By)
		Direct Fast Yellow RL	(IG)
209	S.363 C.448	Benzo Purpurine 4 B	(By)
		Cotton Red 4 BXA	(IG)
219	S.635 C.892	Blue 1900, double powder	(DH)
		Azoxine Violet N	(H)
220	(A)	Brill. Acid Blue FF	(By)
		Acid Blue V. V conc.	(Kuhlman)
251	S.885 C.1190	Brill. Indigo B 20% paste	(B)
		Brilliant Indigo BASF/B Psts. & Powd.	(IG)
257	(D)	Brill. Pure Yellow 6 Gex.	(By)
		Brilliant Pure Yellow 6 GX	(IG)
264	(A)	Brill. Wool Blue FFR ex.	(By)
		Brilliant Fast Wool Blue FFR ex.	(IG)
278	(DAS)	Celanese SRA Golden Yellow VIII 10% paste	(BC)
		Celliton Fast Yellow 2 R pastes	(IG)
288	(DAS)	Celatene Fast Light Yellow 20% paste	(SD)
		Celliton Yellow 3 G pastes	(IG)
292	(DAS)	Celatene Red Violet 10% paste	(SD)
		Celliton Fast Red Violet R pastes	(IG)
346	(M)	Chromoxane Violet RD	(By)
		Chrome Violet CBD	(DH)
540	(DAS)	Duranol Blue G 10% paste	(BDC)
		Celliton Fast Blue B pastes	(IG)
541	(DAS)	Duranol Orange G 10% paste	(BDC)
		Celliton Orange R pastes	(IG)
542	(DAS)	Duranol Red BB 10% paste	(BDC)
		Cibacete Red 3 B pastes	(J)
		Setacyl Direct Pink 3 B conc.	(G)
590	S.699	Fast Blue R	(B)
		Induline NN	(IG) (B)
	C.861	Gallamine Blue extra 20% paste	(G)
		Azoxine Brilliant Blue B pastes	(H)
609	S.637 C.894	Hansa Yellow G 15% paste	(B)
628	(L)	Lake Yellow G pastes, powder & lumps	(IG)
661	S.810 C.1138	Hellindone Yellow 3GN 20% paste	(M)
		Vat Yellow 3 G pastes & powder	(IG)
687	(V)	Hydron Violet RF 18% paste	(C)
		Vat Printing Violet RF pastes & powder	(IG)
713	(V)	Indanthrene Brill. Blue 3 G 12½% paste	(IG)
		Vat Brill. Blue 3 G pastes & powder	(IG)
742	S.830 C.1142	Indanthrene Red R 12½% paste	(B)
		Anthra Red RF pastes & powder	(IG)
761	S.870 C.1178	Indigo Solution 20% paste	(B)
		Indigo White	(B)
773	S.541 C.710	Isamine Blue 8 B	(C)
		Brill. Pure Blue 8 G extra	(IG)
799	(M)	Metachrome Blue Black 2 BX	(A)
		Metachrome Blue Black 2 B extra	(IG)
806	C.104	Metachrome Olive Brown G	(A)
		Metachrome Olive Brown G	(Br)
902	S.545 C.714	Patent Blue A	(M)
		Acid Blue A, A conc.	(Kuhlman)
959	(B)	Rhodamine Scarlet G	(By)
		Rhoduline Scarlet G	(IG)
997	(A)	Sulpho Rosazeine G	(M)
		Sulpho Rhodamine G extra	(IG)
1013	(A)	Supramine Red 3 B	(By)
		Polar Brill. Red B conc. 1203	(G)
1024	S.618 C.815	Thioflavine T	(C)
		Tannoflavine TR	(S)
1027	(Sr)	Thiogene New Blue BL	(M)
		Sulphide New Blue BL	(IG)
1030	(V)	Thioindigo Black B 20% paste	(K)
		Vat Black R pastes for printing	(IG)
		Helindone Printing Black RD	(IG)
1039	C.925	Toluidine Blue TN	(B)
		Toluidine Blue	(IG)
1078	(A)	Xylene Brill. Blue FFR	(S)
		Xylene Brill. Blue FFRX	(S)
		Benzyl Fast Blue 3 GL	(J)
1081	S.22 C.639	Xylene Light Yellow 2G	(S)
		Acid Chrome Yellow 3 GL	(IG)
1085	(DAS)	Yellow R 20% paste for Acetate Silk	(B)
		Celliton Fast Yellow R pastes	(IG)

Changes in Standard List

Algol Violet R. and other names listed under Standard 53, are removed from the list.

Standard 654, Helindone Printing Black RD, is removed from the list.

Standard 583, Fast Acid Green BB ex. (M), is removed from the list.
Standard 768, Induline NN (B), is removed from the list.

KEY TO ABBREVIATIONS

1. The Six Leading German Companies

A.....Actien Gesellschaft fur Anilin Fabrikation, Berlin, Founded 1873.
B.....Badische Anilin-und-Soda Fabrik, Ludwigshafen on-the-Rhine. Founded 1865.
By.....Farbenfabriken, vormals Friedr. Bayer & Co., Leverkusen on the Rhine. Founded 1862.
C.....Leopold Cassella & Co. Main. Founded 1870.
K.....Kalle & Co., A. G., Biebrich on the Rhine. Founded 1870.
M.....Farbwerke, vormals Meister Lucius & Bruning, Hochst on-the-Main. Founded 1862.

2. The Smaller German Companies

BK....Leipziger Anilinfabrik Beyer & Kegel. Furstenberg, near Leipzig. Founded 1882..
GG....Chemikalienwerk Griesheim G.m.b.H., Greisheim-on-the-Main. Founded 1882.
CJ.....Carl Jager G.m.b.H., Anilinfarbenfabrik, Dusseldorf. Founded 1823.
GrE...Chemische Fabrik Griesheim-Electron, Offenbach-on-the-Main. Founded 1842.
L.....Farbwerk Mulheim, vormals A. Leonhardt & Co., Mulheim-on-the-Main. Founded 1879.
tM ....Chemische Fabriken, vormals Weiler ter Meer. Uerdingen-on-the-Rhine. Founded 1877.
WD....Wulfing, Dahl & Co., A. G. Barmen. Founded 1842.

3. Swiss Companies, all at Basel

DH....Farbwerke vormals L. Durand, Huguenin & Co. Founded 1871.
G.....Anilinfarben-und Extract-Fabriken, vormals Joh Rud. Geigy. Founded 1764.
I.....Gesellschaft fur chemische Industrie. Founded 1885.
S.....Chemische Fabrik, vormals Sandoz & Co. Founded 1887.

4. Dutch and French Companies

FA....Farbwerk Ammersfoort, Ammersfoort, Netherlands. Founded 1888.
NF....Niederlandische Farben-und-Chemikalienfabrik Delft, Delft. Netherlands. Founded 1897.
CN[1]...Compagnie Nationale des Matieres Colorantes et Produits Chimiques. Founded 1917.
P.....Societe Anonyme des Matieres Colorantes et Produits Chimiques St. Denis. (formerly A. Poirrier). Founded 1830.

5. English Companies

Bro....Brotherton & Co. (Ltd.), City Chambers, Leeds.
BAC..British Alizarine Co. (Ltd.), Manchester.
BD....British Dyestuffs Corporation (Ltd.), London.
[1]Etablissements Kuhlmann merged with this company in 1923.
Cl Co..The Clayton Aniline Co. (Ltd.), Clayton, Manchester.
CV....The Colne Vale Dye and Chemical Co. (Ltd.), Milnsbridge, Huddersfield.
Hol....L. B. Holliday & Co. (Ltd.), Huddersfield.
Scot...Scottish Dyes (Ltd.), Grangemouth.

Chemical Substitution

Some irrepressible statistician has calculated that each of us consumes seven times as much of the world's raw materials as did the Englishman of Queen Elizabeth's time. Anyone may question such figures, but nobody can prove them false—which is, I take it, the cardinal virtue of statistics. They are, however, quite correct in that they represent vividly the tremendous lift in the scale of our daily living says Williams Haynes, publisher of CHEMICAL MARKETS in the November "Atlantic Monthly".

In the United States our per capita wealth has mounted ($624 in 1870 to $2919 in 1922) so that, had we been content to jog along behind grandfather's old gray mare instead of rushing ahead in next year's model of a motor car we shall pay for the year following, we should have never heard even of 'the high cost of living.' If we were but a bit more contented, we might to-day create an Elysium in which four hours a day of honest toil would provide a comfortable competency for all.

We are passing, almost imperceptibly but swiftly, from the age of power to that of chemicals.

'Substitute'—especially 'chemical substitute'—has some nasty connotations. Yet no such stigma attaches itself to glass, although glass is a chemical product (sand, limestone and soda ash fused together) which long ago replaced natural products—so long ago, in fact, that we do not know who discovered it, though we are certain it was manufactured in Egypt before 1500 B. C. We have forgotten that the tumbler we drink from substituted for the brass bowl of the East and the horn flagon of the North. Even our windowpanes are a quite recent chemical substitute for a piece of thin-scraped parchment. Ordinarily we think of glass as neither a chemical nor a substitute. Nevertheless it is both, and it possesses those characteristics which in the future will make synthetic products invaluable to mankind.

In the first place, a chemical substitute replaces natural products, freeing them for other uses. When indigo was first made from coal tar, its introduction ruined many a prosperous indigo plantation in India. To-day those acres, once devoted to growing the dye plant, are sown to rice and millet. Every head of cattle in the United States would be slaughtered for its hide to supply the automobile industry's demand for seat upholstery and tops if it were not for artificial leather. In such an event sirloin steak might be selling at two cents a pound, as a by-product of our tanneries; but on the other hand a pair of shoes might be costing a hundred dollars. This is fanciful economics; but it is a plain fact that artificial leather is a more suitable and lasting material for automobile use than the natural product.

Even these very new chemical goods, so long as they do not masquerade as something richer or rarer than themselves, and make no attempt to trick our palates or our pocketbooks, are given at least a fair test. They cannot compete with luxuries, since their very economic purpose is to become cheap and plentiful; and glass mounted as a diamond, or paper in the sole of a shoe, deserves contemptuous exposure. For there is a misuse of chemical substitutes just as there has been sophistication of natural materials. But, properly used to save human effort, to save time, and especially to conserve our dwindling stocks of natural goods, these chemical products are, and increasingly will be, one of the best material blessings of our chemical age in industry.

CHOOSING LACQUER SOLVENTS

(Continued from Page 638)

is that they are chemical entities. Methyl glycol has been found to be an advantageous solvent for nitrocellulose, celluloid and also for acetyl cellulose, while ethyl glycol will dissolve only collodion cotton and celluloid.

These solutions of cellulose esters will dry out to give a perfectly transparent film. The solvents can be cut with such substances as alcohol, benzol or butanol in almost any proportion.

Diethyl Carbonate

Diethyl carbonate belongs to a group of carbonic acid esters which have been recommended for this purpose within recent times. Diethyl carbonate is the carbonic acid ester of alcohol. It is a waterwhite liquor, with not an unagreeable odor, and though not considered as a solvent itself, when added to solvents it improves their powers. Thus it can be mixed in any proportion with solvents, but on the other hand it is not soluble in water, or rather very slightly soluble. The boiling range o the substances is 120 to 130 degrees C, the flame temperature approximately 25 degrees C, the specific gravity at 15 degrees C 0.9760, the molecular weight 118 and the ester number of the pure preparation 949.

Diethyl carbonate has only a slight, if any, solvent action on cellulose esters and ethers. However it becomes a solvent when admixed with alcohols and esters. Under these conditions it has a high solvent action on nitrocellulose, resins, drying oils and the like. The main use for this substance is in the manufacture of mixed lacquers made from collodion cotton on the one hand and resins and oils on the other.

Ethylbutyl carbonate is another substance of interest in this connection and related as well to diethyl carbonate. The former substance has a boiling range of 135 to 175 degrees C, a flame temperature of approximately 50 degrees

(Continued on Page 678)

[News and Markets Section]

Maximum Alcohol Output 85,000,000 Gallons

Step Taken At Washington Meeting of Alcohol Advisory Committee—Dr. Doran Presides—Ittner Appointed Chairman, Brown Vice-chairman—Curtailment Amounts to 10,000,000 gallons—Will Study Needs of Individual Plants Throughout The Country.

(*Special to* CHEMICAL MARKETS)

Washington, D. C., Nov. 9—An initial meeting of the industrial alcohol advisory council appointed some time ago by Commissioner of Prohibition, J. M. Doran was held here last week at which time in conference with the Commissioner and Assistant Secretary of the Treasury Lowman, the committee discussed curtailment of production of industrial alcohol.

The members of the council who attended were Dr. Martin H. Ittner, chairman, Industrial Alcohol Committee, American Chemical Society and chief chemist, Colgate & Co., Jersey City, N. J.; Dr. Harrison E. Howe, Washington, D. C., editor, "Journal of Industrial & Engineering Chemistry"; H. S. Chatfield, New York City, chairman, Industrial Alcohol Commission, Paint, Oil & Varnish Assn.; A. Homer Smith, president Sharp & Dohme, Baltimore; Frank A. Blair, Household Products Corp., New York City; Samuel C. Henry, secretary, National Assn. Retail Druggists, Chicago; Frank J. Noonan, Noonan & Sons, Boston; Russell R. Brown, New York City, president, U. S. Industrial Alcohol Co.; George F. Dieterle, president, Federal Producsts Co., Cincinnati; C. Mahlon Kline, Smith & French, Philadelphia; and Fred S. Rogers, Middletown, N. Y., president, Flavoring Extract Manufacturers' Assn.

Dr. Martin H. Ittner was elected chairman, Russel R. Brown, vice-chairman, and Dr. Harrison E. Howe, secretary of the advisory council.

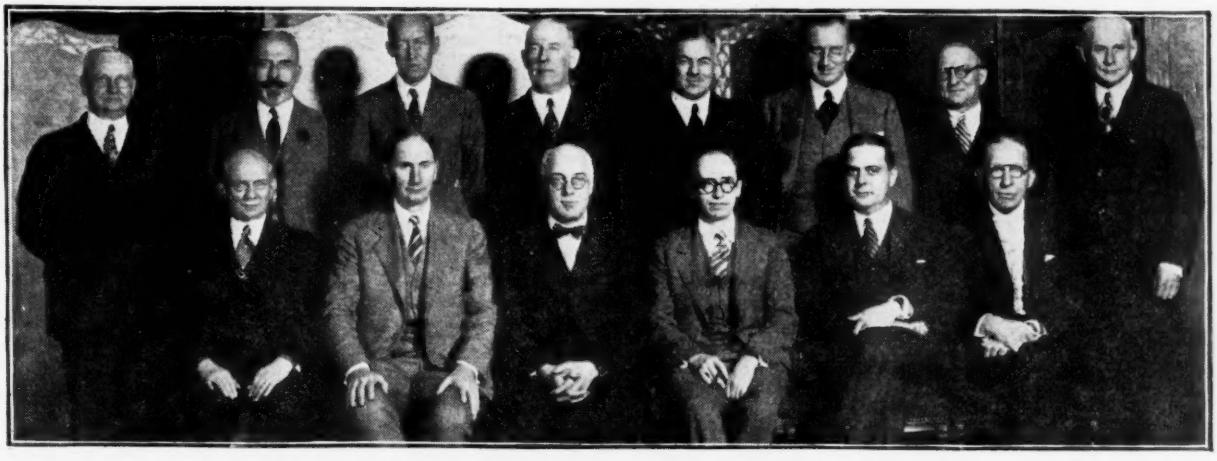
Following the conference Secretary Lowman stated that representatives of nearly all of the industrial alcohol producers in the United States had agreed to the proposal of the government to restrict industrial alcohol production to 85,000,000 gallons during 1928, which is said to be 10,000,000 gallons less than this year's production. Secretary Lowman, following the conference declared that he had been assured that the cost of alcohol to consumers would not be increased because of the decreased output.

Dr. Doran said that there was a common interest evinced between those seeking to enforce the prohibition laws and those engaged in legitimate industry because the latter group were beginning to feel the effect of the legitimate profits reaped from the exess of production.

"The legitimate manufacturers have been carrying an excess in their inventories," Dr. Doran said. "The carrying charge naturally is heavy, besides the losses that may come otherwise. We believe that legitimate industry is going to join hands with us in a sincere effort to eliminate the bootleg traffic."

The Bureau of Prohibition in conjunction with the Advisory Council, is now studying the apportionment of production by plants and will soon be able to inform individual plants what their output may be next year. All will be treated alike, Dr. Doran said, and the calculations will be based on previous average sales. This rule, however, will not be hard fast, according to the Commissioner who referred to the terms of the order respecting permits which allows for alteration of the amounts upon a showing of cause. Following is the full text of the order.

All applications for renewal of outstanding permits to operate industrial alcohol plants for the calendar year 1928 are required to be filed with the proper Prohibition Administrators, and submitted by them to the Commissioner of Prohibition. When received by the Commissioner, he will indicate on each application his approval of the quantity of alcohol which may be produced in the industrial plant described therein during the ensuing calendar year and return the application to the Administrator for the necessary action in connection with the issuance of renewal permits. Where renewal permits are issued by Administrators pursuant to such applications, there shall be inserted in each such permit provision that the quantity of alcohol which may be manufactured thereunder shall



Alcohol Advisory Committee In Session at Washington Last Week

not exceed the quantity approved in the application by the Commissioner, which amount shall be noted in the permit by the Administrator.

In any case where it appears, after operations have been conducted under a permit issued as above indicated, that correction of the quantity authorized for manufacture is necessary in order to provide an adequate supply of alcohol or denatured alcohol for industrial purposes, the Commissioner may, upon proper showing of the facts, make such adjustment as he deems warranted in the quantity which may be produced under the permit during the calendar year.

DORAN AMENDS ALCOHOL LIMITATION REGULATIONS

(*Special to* CHEMICAL MARKETS)

Washington, D. C., Nov. 9—J. M. Doran, Commissioner of Prohibition is sending a communication to administrators amending regulation No. 3 on the limitation of the production of alcohol. The amendment is as follows:

All applications for renewal of the outstanding permits to operate industrial alcohol plants for the calendar year 1928 are required to be filed with the proper Prohibition Administrators, and submitted by them to the Commissioner of Prohibition. When received by the Commissioner, he will indicate on each application his approval of the quantity of alcohol which may be produced in the industrial alcohol plant described therein during the ensuing calendar year and return the application to the Administrator for the necessary action in connection with the issuance of renewal permits. Where renewal permits are issued by Administrators pursuant to such applications, there shall be inserted in each such permit provision that the quantity of alcohol which may be manufactured thereunder shall not exceed the quantity approved in the application by the Commissioner, which amount shall be noted in the permit by the Administrator.

In any case where it appears, after operations have been conducted under a permit issued as above indicated, that correction of the quantity authorized to be manufactured is necessary in order to provide an adequate supply of alcohol or denatured alcohol for industrial purposes, the Commissioner may, upon proper showing of the facts, make such adjustment as he deems warranted in the quantity which may be produced under the permit during the calendar year.

Philip C. Scherer is now chemist with the Brown Co., Berlin, N. H.

HERTY ADDRESSES CHEMICAL SALESMEN

Dr. Chas. H. Herty of the Chemical Foundation was the principal speaker at the best attended meeting in the history of Salesmen's Association of the American Chemical Industry, held at the Machinery Club, New York, Friday evening, Nov. 4.

There were about 125 members and guests present at the dinner, which was followed by the installation of the newly elected officers. Ralph E. Dorland, Dow Chemical Co., presided at the installation of officers and then turned the meeting over to Robert J. Quinn, Mathieson Alkali Works, the new president. At the speakers table with Mr. Quinn and Dr. Herty were Dr. Herbert Dow, Dow Chemical Co., Milton C. Whitaker, August Merz, president, Synthetic Organic Chemical Mfgrs. Ass'n. and F. E. Breithut, American Institute of Chemistry. All made short addresses.

Dr. Herty was then introduced and prefaced his talk by saying that he accepted the invitation to talk only on condition that he could express his sentiments on the subject of America and the Cartel without restraint. This he proceeded to do, and for nearly two hours held the interest of the meeting, talking extemporaneously in spite of a speech which he had prepared.

He was particularly vehement in condemning the dissention which has already sprung within the industry in this country over the Sherman Anti-Trust Law and urged careful consideration of all executives, before lining up with those who are in favor of a repeal of the Law. Dr. Herty, a warm champion of the Law in its present state warned that no possible benefits can come of such a move and that the Law was only enacted after years of trial and bickering under the Trust system in this country.

The greatest weakness of the Cartel in the opinion of Dr. Herty is the fact that the principal participants in the Cartel in its proposed make-up are at best suspicious of each other and he related several personal experiences he had while in Europe serving as a member of different American committees some two years ago to bear out his contention. He warned against a too hearty participation of the American public in the industrial bond issues of foreign countries, pointing out that every dollar invested in these bonds might some day be used against this country.

Summing up, he asking the salesmen to give the matter careful consideration and to do all in their power to mold opinion in favor of the American Chemical Industry.

A two-year legal fight by the Republic Chemical Co., New York, to regain alcohol worth $256,000, seized at Pittsburgh in November, 1926, ended last week in defeat for the company by decision of the United States Circuit Court of Appeals.

The Circuit Court upheld the order of Federal District Judge Schoonmaker for the forfeiture of the alcohol to the Government. Prohibition agents seized the alcohol, consisting of eight carloads, when an attempt was made to unload the cargo as "cresote" and "wood stain." The Republic Co., had bought 1000 drums of alcohol from a man named Hyman Frank, also of New York, for legitimate purposes.

GERMANY, NORWAY REACH NITROGEN AGREEMENT

Negotiations which for the past year or so have been carried on between the Norsk Hydro and the I. G. Farbenindustrie have now, according to reliable reports finally resulted in the following arrangement or contract between the two parties, says Commercial Attache H. Sorensen, Oslo.

The two companies will exchange shares so that each will hold an appreciable amount of shares of the other. This will be accompanied by an increase in capital by both the Norsk Hydro and the I. G. Farbenindustrie. A complete exchange of patents, methods and experimental information will also take place, and the agreement will also result in a sales combination.

For the Norwegian nitrogen industry the agreement will immediately lead to the beginning of a complete modernization of the plants at Notodden and Rjukan, through which the present volume of production, 33,000 tons per year will be greatly increased. It is the plan to discontinue the use of the Birkeland-Eyde arc process, and replace it by the German Haber-Bosch method, which is much more economical, giving from three to four times as great a volume in proportion to consumed current.

It would appear that the Norwegian output would be tripled by the new Norwegian-German agreement and that Germany would benefit through the elimination of competition in allocated markets.

James P. McGovern, Washington, D. C., attorney for Alcohol Manufacturers' A'ssn, is in Walter Reed General Hospital recuperating from a minor operation.

National Science Symposium to be Held

Organic Division, American Chemical Society To Hold Meeting At Ohio State University—Carnegie Tech To Be Scene of 1928 International Coal Conference—Plans For Research In Steel Chemistry Launched.

(*Special to* CHEMICAL MARKETS)

A three-day national science symposium will be held at Ohio State University beginning December 29 under the auspices of the Organic Division of the American Chemical Society.

Those who will present papers were chosen by ballot of the Division. They include:

Roger Adams, Univ. of Illinois; Homer Adkins, Univ. of. Wisconsin; James B. Conant, Harvard Univ.; Graham Edgar, Ethyl Gasoline Corp.; Wm. L. Evans, Ohio State Univ.; E. C. Franklin, Stanford Univ.; H. S. Fry, Univ. of Cincinnati; Charles L. Herty, Chemical Foundation; Arthur J. Hill, Yale Univ.; C. S. Hudson, Bureau of Standards; Oliver Kamm, Detroit; E. C. Kendall, The Mayo Foundation; J. A. Nieuwland, Univ. of Notre Dame; James F. Norris, Massachusetts Institute of Technology; R. R. Renshaw, New York Univ.

There also will be five colloquia on subjects of general interest in organic chemistry.

CARNEGIE TECH TO HAVE 1928 COAL CONFERENCE

A second International Conference on Bituminous Coal will be held at Carnegie Institute of Technology, Pittsburgh, during the week of November 19, 1928.

Although no definite program plans for the second conference have been made, it is expected that the 1928 session will cover the latest developments in obtaining substitutes for gasoline from coal, power from coal, low and high temperature distillation processes, smokeless fuel, gasification of coal, utilization of coal tar products, coal as a source for fertilizer, and coal in relation to the production of fixed nitrogen.

The first conference, which was devoted to discussions of the better utilization of bituminous coal, was attended by 1700 persons, including delegates from thirteen different countries.

A five year's program of scientific studies in the physical chemistry of steel making to be carried out by the Carnegie Institute of Technology, the U. S. Bureau of Mines, and an advisory board of Pittsburgh steel executives and metallurgists has been launched. Twenty-six steel companies located east of the Mississippi river will cooperate in the work.

Pledges of support in undertaking the research program were given by 65 representatives of the 26 cooperating steel companies at a dinner given for them and members of the advisory board by President Thomas S. Baker at the Carnegie Institute of Technology on October 19.

Speakers at the meeting included Dr. Thomas S. Baker, president, Carnegie Institute of Technololgy, Dr. John Johnston, director, Department of Research and Technology, United States Steel Corporation, Scott Turner, director, U. S. Bureau of Mines, aad Dr. C. H. Herty, Jr., chief Ferrous Metallurgical Section, U. S. Bureau of Mines.

NEW DU PONT DYES

The Dyestuffs Department of E. I. du Pont de Nemours & Company has placed on the market the first of a new series of vat dyestuffs, which have been developed especially for printing. These dyestuffs, which will be offered under the name of Leucosol colors are said to be non-foaming and grit free and extremely homogeneous so that they do not settle out; non-drying and, therefore, do not form crusts in the barrels, thus avoiding variations in strength of the printing paste and the formation of hard particles of dyestuff. Even under varying conditions of steaming it is claimed that these products give uniform results. Leucosol Black BB Paste produces blacks and also iron grays of all depths, fast to light washing and chlorine.

ALCOHOL FORMULA NO. 4 ABOLISHED BY DR. DORAN

Washington, D. C., Nov. 9—J. M. Doran, Commissioner of Prohibition, has announced that effective Nov. 15 Denatured Alcohol Formula No. 4 is rescinded. Specially Denatured Alcohol formula No. 1 or 23-A may be approved by the Administrator says the order, for use in the manufacture of any preparations now being prepared with specially denatured alcohol No. 4-A. It has also been announced that effective Nov. 1 the state of South Carolina became a part of Prohibition District No. 8. That District now embraces the states of Virginia, North Carolina and No. 9 will embrace the states of Georgia and Florida.

SEPT. REFINED METHANOL OUTPUT LOWER THAN 1926

(*Special to* CHEMICAL MARKETS)

Washington, D. C., Nov. 7—Production figures on acetate of lime crude and refined methanol, have been released by the Department of Commerce. September production of acetate of lime was 12,957,833 lbs., bringing the total for the first nine months of the year to 116,859,729 lbs. as compared to 1926 figures of 11,770,154 lbs. and 115,506,665 lb. respectively. September crude methanol production amounted to 576,947 gals. and a total of 5,896,803 gals. for the year to date as compared with 610,393 gals. and 5,929,168 gals. for like periods during 1926. September production figures of refined methanol are sharply down from those of 1926, the former being 441,771 gals. and the latter 700,211 gals. The total for the nine months of 1927, 3,725,198 gals. does not compare favorably with that of 1926, 5,629,123 gals.

SOLVAY NOW MAKES LIQUID CHLORINE

Liquid chlorine is now being manufactured by Solvay Process Co., and distributed by Solvay Sales Corp., New York.

This introduction marks another step in the market activities of Solway Process Co.

Distribution plans have been perfected and Solvay Liquid chlorine is now available for immediate delivery in tank cars or multiple unit cars, suitable to the general demands of the trade. Under these arrangements, delivery requirements can be met for either spot or contract shipment.

Washington, D. C., Nov. 9—Rates on sulfuric acid, in tank car loads, from Kansas City, Kans., to Grasselli, Ala., and Copper Hill, Tenn., to destinations in Oklahoma have not been found unreasonable or otherwise unlawful in a decision rendered by the Interstate Commerce Commission in the case of the National Zinc Co., against the Alabama & Vicksburg Railway Co. The complaint has been dismissed.

Dr. David Wesson, chemical engineer and technical counsellor of Southern Cotton Oil Co., has moved his office from the Produce Exchange, New York to 11 South Mountain ave., Montclair, N. J.

HART HONORED BY A. N. A.

Wiliam E. Hart, E. I. du Pont de Nemours & Co., was elected president of the Assn. of National Advertisers, Inc, at the annual convention of the association in New York last week.

DAVISON ACQUIRES PICK FERTILIZER CO.

Davison Chemical Co., Baltimore, has added to its holdings by the acquisition of the Pick Fertilizer Service, Inc., New Orleans. The factory of this company has a capacity of 40,000 to 50,000 tons of fertilizer per month, which is distributed chiefly among the sugar cane, rice, cotton and strawberry growing districts of Louisiana and Mississippi. The plant is located in the industrial center just across the river from New Orleans, and its acquisition gives Davison a total of fourteen works stretching from Lewes, Del., to the Mississippi river. Davison has also bought adjoining water front property on which it will construct a new building with a storage capacity of 10,000 to 15,000 tons and a 300 foot wharf on the river, providing facilities for the discharge of acid shipped from Baltimore. Superphosphates used in the Pick plant will be turned out at Curtis bay and forwarded from there. Pick acquired its present organization about five years ago from American Cotton Oil Co., and will, it is said, preserve its name and corporate identity, with W. W. Pickens, pres., and B. O. Gross and A. S. Nicaud, vice-pres. being retained.

William Ridgely Orndorff, professor of organic chemistry at Cornell University for the last twenty-five years, died last week after a long illness.

He was born in Baltimore sixty-five years ago, attended Baltimore City College and Johns Hopkins University, receiving the degree of A. B. from the latter institution in 1884 and that of Ph. D. in 1887. He subsequently studied at four universities in Germany and came to the Cornell faculty in 1887.

U. S. Civil Service Commission announces that an open competitive examination for the position of biochemist will be held, for which applications must be on file with the Commission at Washington by Dec. 6. The examination is to fill a vacancy in the Hygenic Laboratory, Public Health Service, Washington, at a salary of $3,600 per year.

It is reported that the Anglo-German Glauber's Salt Foreign Sales Convention has been renewed until 1930. Participants in the Convention are the Imperial Chemical Industries, Ltd., the I. G. Farbenindustrie A. G., and Wintershall potash interests. The report places the allocation of the Winter group at 45 per cent of the total export quota.

FRED L. LAVANBURG DIES

Fred L. Lavanburg, president, Fred L. Lavanburg Co., New York dry color manufacturers, died of pneumonia last Saturday at the age of sixty-four. He was born in New New York Oct. 21, 1863, the son of Louis and Hannah S. Lavanburg. After graduating from Columbia Grammer School, he attended the Columbia School of Mines and Stevens Institute of Technology. In 1886 he organized the business, over which he presided at his death. He was a member of the Bankers' Club, New York Paint, Oil and Varnish Club, Century Country Club, Harmonic Club, Drug and Chemical Club and Criterion Club. He was a member of the Jewish Temple.

Mr. Lavanburg was unmarried and lived at 993 Park Avenue, New York. During recent years, he had become

Fred L. Lavanburg

deeply interested in philanthropy, having founded, with Mrs. Oscar S. Straus, the Hannah Lavanburg Home for immigrant girls. More recently he planned the erection of model tenements for the poor.

Funeral services were held on Monday at the Lavanburg home, after which, interment was made in Beth Olom Fields, adjoining Cypress Hills Cemetery, L. I.

Imports of urea entered for consumption in the United States during the first 8 months of 1927 exceeded those of the year 1926, the figures being 669,950 pounds ($42,053) and 377,729 pounds($30,346) respectively.

W. A. Robinson & Co., New Bedford, Mass., whale oil merchants, have sold their business, established in 1865, to New York interests, according to announcements from the former city.

AGRICULTURAL CHEMISTS PRAISED FOR SERVICES

The Association of Official Agricultural Chemists, holding their annual meeting in Washington, were addressed November 1 at the Raleigh Hotel by the Assistant Secretary of Agriculture, R. W. Dunlap.

Mr. Dunlap expressed the application of the Department for the general services rendered the public by the Association, and more particularly, for the compilation of the book of methods for analysis

"Glancing through the 32 chapters contained in the Book of Methods of the Association of Official Agricultural Chemists," Mr. Dunlap said, "One is really amazed at the tremendous amount of work which has been done in preparing this unusual and epoch-making publication in this particular field of chemistry. When we realize that all this work has been done voluntarily, without any thought of profit on the part of men and women engaged in public service we are struck with the splendid service which has been rendered.

DEAD SEA CONCESSIONS TO BRITISH SYNDICATE

(*Special to* CHEMICAL MARKETS)

London, Oct. 26.—The important announcement has been made this week that a British syndicate has secured, from the Colonial office and the Palestine and Transjordan governments, the concession for reclaiming the mineral resources of the Dead Sea. Terms have not as yet been disclosed and it appears that so far no formal contract has been signed. In one quarter it is asserted that the position of Imperial Chemical Industries is unassailable, as all the details which had prevented final settlement, have now been satisfactorily settled. When the contract is definitely signed, immediate action is contemplated by the concessionaries under the title of "Dead Sea Development Co."

Experts who conducted the investigations give the following estimates of the resources of the Dead Sea concession: potassium chloride, 2,000 millions of metric tons; magnesium bromide, 980 millions of metric tons; sodium chloride, 11,900 millions of metric tons; magnesium chloride, 22,000 millions of metric tons; and calcium chloride, 6,000 millions of metric tons. It is said that the supply of potash may be considered inexhaustible which renders the concession very valuable commercially and provides a stimulus for agriculture through cheaper fertilizers.

[The Industry's Finances]

Freeport Texas Quarterly Earnings Up

Dividend For Quarter Ending Aug 31 Amounts to $1.51—Consolidated Chem. Co. of San Francisco Floats Issue—Jones & Laughlin Report.

Freeport Texas Co. for quarter ended August 31, 1927, reports net income of $1,102,726 equivalent to $1.51 a share earned on 729,844 shares of no par stock. This compares with $880,737, or $1.20 a share, in preceding quarter and $372,710, or 51 cents, in third quarter of previous fiscal year.

Net income for nine months ended August 31, 1927, totaled $2,702,315, equal to $3.70 a share, against $1,079,078, or $1.47 a share, in same period of previous year.

Consolidated income account for nine months ended August 31, 1927, compares as follows:

	1927	1926
Gross inc....	$9,069,618	$6,376,243
Costs & ..exp	6,360,089	5,070,265
Gross prof.	$2,709,529	$1,305,978
Other inc.	252,725	46,302
Total in...	$2,962,254	$1,352,280
Depr & tax reserve	259,939	273,202
Net prof. ..	$2,702,313	$1,079,078

Consolidated Chemical Industries, San Francisco, has floated a $750,000 bond issue out of an authorized issue of $1,000,000. This concern owns all of the outstanding capital stocks of Pacific Bone, Coal & Fertilizing Co., Texas Chemical Co. and Louisiana Chemical Co., Inc. The Pacific Bone, Coal & Fertilizing Co. was organized in 1878 and produces bone black, glue, fertilizer material and a number of by-products. Texas Chemical Co. was organized in 1916 and produces sulfuric acid, nitric acid, muriatic acid, bone black and other chemicals, with a plant at Houston, Tex. Louisiana Chemical Company, Baton Rouge, La., was organized in 1925 and produces sulfuric acid. Products of the three companies are sold largely to oil and sugar refiners. Ownership of the stock of the Consolidated Chemical Industries is vested in the hands of S. Peiser, president; Milton Haas, vice-president; Christian de Guigne and family and the Stauffer Chemical Co.

Jones & Laughlin Steel Corp. and subsidiaries report for nine months ended September 30, 1927, net income of $9,841,816 equivalent after preferred dividends to $11.83 a share earned on 573,320 shares of common stock. This compares with $11,759,556 or $15.29 a share in first nine months of 1926.

Net income for quarter ended September 30, 1927, was $2,607,013 equal to $2.76 a share on common stock. This compares with $3,576,079 or $4.45 a share on common in preceding quarter and $4,257,787 or $5.68 a share in third quarter of 1926.

Wesson Oil & Snowdrift Co. Inc., and subsidiaries report for year ended August 31, 1927, net profit of $2,673,353 after depreciation, federal taxes, etc., equivalent after dividends on $7 no par preferred stock, to $5.62 a share earned on 270,000 no par shares of common stock. Previous report covered 15 months ended August 31, 1926, and showed net profit of $3,533,002 or $8.71 a share on the common.

Penick & Ford, Ltd., Inc., and subsidiaries report for the quarter ended Sept. 30, 1927 net income of $153,122 after depreciation, etc., but before Federal taxes. This compares with $212,541 in the preceding quarter and $308,098 in the corresponding quarter a year ago.

Warren Refining & Chemical Co., of Cleveland, O., will open a plant at the foot of Seventeenth street, Richmond, Cal.

[Foreign Exchange]

	Par	Current
Great Britain (pound sterling)..	4.866	4.867
France (franc)	.193	.039
Italy (lira)	.193	.055
Belgium (franc)	.198	.139
Czechoslovakia (crown) per 100	20.30	2.96
Denmark (krone)	.268	.268
Germany (mark)	.238	.239
Holland (florin)	.402	.403
Poland (zloty)	.193	.113
Norway (krone)	.258	.264
Spain (peseta)	.193	.171
Sweden (krone)	.268	.269
Switzerland (franc)	.193	.193
Argentila (peso)	.414	.426
Brazil (milreis)	.324	.120
Japan (yen)	.499	.464
India (rupee)	.485	.364
China (Silver dollar, Hongking)	.789	.496
(Tael—Peking, silver)	1.146	.658
(Tael—Shanghai, silver) ..	1.986	.629

SHERWIN-WILLIAMS GAIN

Sherwin-Williams Co., Cleveland, O. despite lower prices for the company's products, established a new high sales record for the year ended August 31, 1927. Sales totaled $60,833,306 comparing with $58,505,121 in 1926, the previous record year, representing an increase of $2,328,195.

President George A. Martin in remarks to stockholders says "The first month of the new fiscal year was 11% ahead of the corresponding month last year. With this good start we see no reason why the new year should not be very satisfactory.

"The backbone of our business continues to be our long established line of paints and varnishes which, distributed through 44,000 retail merchants throughout the country, represents 71% of the company's volume."

Consolidated balance sheet of Sherwin as of August 31, 1927, reveals a strong financial condition. Total assets on August 31, 1927, were $43,307,398, comparing with $41,207,564 in previous year. Current assets as of August 31, 1927, amounted to $24,376,512 as compared with $22,980,774 a year ago and current liabilities amounted to $3,608,464, including reserve for estimated federal taxes, as against $3,656,901. Net working capital totaled $20,768,048. Cash on hand was $2,434,542, a decrease of $463,567 when compared with August 31, 1926.

America Zinc Lead & Smelting Co., Boston, reports for the quarter ended Sept. 30, 1927, net income of $113,970, equivalent to $1.18 a share on the 96,560 cumulative preferred shares ($25 par) outstanding. This compares with $12,703, or 13c a share on the preferred in the preceding quarter and with $152,137, or $1.89 a share on the 80,330 preferred shares outstanding in the September, 1926 quarter.

Net income for the 9 months ended Sept. 30 amounted to $223,165, or $2.33 a share on the outstanding preferred stock, as against $382,988, or $4.76 a share on the preferred stock in the corresponding period of 1926.

Freeport Texas Sulfur stock has been advancing recently, despite a declining trend of the general market. Operators are anxiously awaiting the annual report of the company, the earnings of which are largely dependant upon the suflur market.

Casein Co. of America (Delaware) declared an extra dividend of 1% and regular quarterly dividend of 1½%, both payable November 15 to stock of record November 7.

[Stocks & Bonds]

	1926 High	1926 Low	1927 High	1927 Low	Current Bid	Current Asked
*Air Reduction	146¾	107½	199⅛	134½	175½	176
*Allied Chem.	148⅞	106	169¼	131	146½	147
*Allied Chem. pfd.	122¾	118¾	124½	120	122¼	122¾
Am. Ag. Chem.	34⅜	9	157⅛	8⅛	12½	12¾
*Am. Ag. Chem. pfd.	96½	35⅝	51¾	28¼	44½	45
Anaconda	51⅞	41½	49⅞	41¼	48⅛	48¼
*Am. Cyan, "A"	46	36⅞	40	25	25	40
*Am. Cyan "B"	47	35¼	35	29	24	26
*Am. Linseed	52⅞	25⅝	67¾	20¼	67⅛	67¾
*Am. Linseed pfd.	87	68¾	91½	46¾	91	91½
*Am. Metals	57⅜	42¼	46¾	38	39	39⅞
*Am. Metals pfd.	120	113½	112	107	108⅜	110½
Am. Rayon Prod.	35¾	29¾	16	3½	14	14
*Am. Smelting	152	109⅝	180½	132⅝	165¼	165¾
*Am. Smelting pfd.	122⅜	112⅞	132¾	119¼	128¾	128¾
*Am. Zinc	12½	5½	10¼	5¼	5⅜	6
*Am. Zinc pfd.	54½	20	51¼	39	36¾	37
Anglo Chil. Nitrate						
*Archer-Dan-Mid.	34⅞	36	50½	38	46	47
*Archer-Dan-Mid., pfd.	108	100	111½	106	111½	...
*Atlas Powder	64	54	65⅛	56½	62	65⅛
*Atlas Powder pfd.	97⅞	96	107	98	103½	104½
Butte Lead & Copper	6¼	4	5⅛	3¾	3¾	4
Butte & Sup. Copper	16¼	7⅛	11¾	7¾	8¾	8⅞
*By-Products Coke 2	93	53	92½	66	70½	72
*By-Products Co., pfd.	...	...	115	105	109	112
*Calla L & Z	2⅝	1½	2⅝	1¼	1¼	1½
Canad. Ind.	20	16¼	37½	14	37¼	37½
Canad. Salt	145	131	115	105	105	115
Casein Co.	...	...	191	149	165	171
Calumet & Hecla	18½	13⅜	17¼	14¼	16⅝	17
Celluloid Corp.	26	16	121½	16	121½	121½
Celluloid Corp., pfd.	8	55	110	63	90	90
Cert. Prod. 1st pfd.	106¼	100	113⅞	106	114	115½
*Certainteed Prod.	49½	36½	55¾	42	51¼	51¾
Charcoal Iron	33½	24	40	8	35	37
Chesebro Mfg. Co.	73	65	123	73	118	123
Chile Copper	36⅜	30	39¼	33⅛	35¼	35½
Cleve Cliff Iron	75	69½	99	86	95	99
*Columb Carbon	70¾	55⅝	100	66⅞	99½	100
*Com. Sol	...	...	203	161	166½	167
*Corn Prod.	51⅝	35⅝	63⅛	46⅞	59	59¼
*Corn Prod. pfd.	130¼	122½	137	128	135	135¾
*Davison Chem.	46¾	27½	40½	26½	32¾	34
*Davison Chem., pfd.	...	...	43½	43	43½	43½
*Devoe & Rayn A	104⅛	31	42⅜	36½	38¾	39⅛
*Devoe & Rayn 1st pfd.	105	40	113	101	111	113
*Dow Chem.	100	74	105	98¾	102½	105
*DuPont deb.	110¼	100¾	115½	105½	113½	115
*DuPont de Nem.	181½	157	343⅞	168	305	306
*Eastman Kodak	136¾	106⅝	175½	126¼	164½	165½
Eastman Kodak pfd.	136¾	106⅝	175¼	126¼	125	128
*Freeport Texas	36	19⅝	94⅜	34	90½	90¾
*Gen. Asphalt	94¼	50	96¾	72½	82	82¼
*Gen. Asphalt pfd.	130	94⅞	144⅞	113	124	132
*Glidden	25¾	15⅜	22	14½	16	16½
Glidden pfd.			100	84	88½	89
*Gold Dust	56½	41½	68⅞	42	64⅝	65½
Grasselli	145	120	132	125	130⅛	132
Grasselli, pfd.	103½	102	107	100	106	107
Hercules Powd. pfd.	115	110	122	115	119	121
*Household Prod.	48⅜	40	67	43¼	66½	67
Industrial Rayon	19⅞	10½	12⅞	4½	12⅝	12⅞
International Agr.	26¼	9⅛	12⅝	6⅛	9¾	10
*Int'l. Agr. pfd.	95	57	65	33	49	51
International Nickel pfd.	...	...	109½	103⅝	108	109⅛
Int'l. Salt	84⅛	61½	72	64½	63½	64½
*Mathieson Alk.	106⅛	62½	124⅝	82	117	117½
*Mathieson Alk. pfd.	105	100	116	103	115	116
Merck & Co.	78	57	86	65	71	74
Merrimac	83	72	88	73	84	88
Miami Copper	17⅝	11	16½	13⅛	15	15⅛
*Nat'l. Dist.	34	12½	51⅝	17	45	46
*Nat'l. Dist. pfd.	73½	57	69¾	43½	47	47½
*Nat'l. Lead	181	138	200	118	117	118
*Nat'l. Lead pfd. "A"	120	116	138	117¼	137	...
Nat'l. Lead pfd. B			112½	104⅞	110½	112½
N. J. Zinc	214½	180	206	182	181	182
Penick & Ford	24	16⅞	27⅞	19½	22½	22⅞
Penn Salt	91	71	91	74	87	89
Proc. & Gam.	163	142½	225	157	220	225
Royal Bak. Pdr.	213	190	250	161	225	250
Royal Bak. Pdr., pfd.	105½	102	108	99	106	108
*Sherwin-William	108	108¼	110	60	61¼	62
*St. Joseph Lead	48½	36⅝	37½	36	37⅝	37½
Silica Gel.	22¾	11⅛	19	13⅛	16	16
Swan & Finch	...	...	30	20	20	20
*Swift & Co.	110	110	125	100½	124	125
*Tenn. C. & C.	16	10⅞	13¼	8⅛	8¾	8⅞
Tenn. Cop. & Chem.	16	10⅝	13¼	8⅛	8¾	8⅞
*Texas Gulf	142	119½	81⅜	49	69	69⅜
Texas Gulf & Sulfur	52⅜	39	81⅜	49	69	69⅜
*Union Carbide	100¾	78	144½	98¾	134⅜	134⅞
United Dyewood Com.			10	3¼	6½	7
Un Gas Imp.	144½	84⅛	113	106	108	108
*U. S. Gypsum	166	126	110	107	104¼	106½
*U. S. Ind. Al.	84½	45⅜	89	69	75½	76¼
*U. S. Ind. Al. pfd.	114⅞	90¼	120	107¼	104¼	116½
Va. Car. Chem. Com. 6% pfd.	69	31⅜	44⅞	26⅛	39¼	39½
Va. Car. Chem Com. 7% pfd.	98⅛	83	90	73	86	87

INDUSTRIAL RAYON NETS OVER $100, 000 IN MONTH

Net profit of Industrial Rayon Corp. and subsidiaries in September was $105,000 after charges and federal taxes, comparing with $110,000 in August and $86,000 in July.

Hyram S. Rivitz, president of Industrial Rayon Corp., says:

"It is my opinion that the balance of the year will show an average net profit of over $100,000 a month.

"Combining the net earnings of the first six months operations with the third quarter, and the estimated earnings for the fourth quarter which are based on commitments already booked, we will show an earning power for the year of something better than $1.75 a share on our outstanding Rayon common stock. Basing our earnings for the third and fourth quarter only, our earnings power is now at the rate of $2.50 a share.

"We are sold up for the balance of the year, and will open our order book for commitments during the latter part of December for the first quarter of 1928. The demand for rayon, both here and abroad, is strong and rayon plants throughout the country are running at full capacity. The outlook for a continuance of this demand for many months to come is very good."

Nuera Rayon Co. is increasing its capital by £210,000. The company has made an agreement with Courtaulds for collaboration in scientific and technical development of Lilienfield patent. New factory is now completed with a capacity of one ton of finished silk a day. Directors have acquired the right to manufacture five times the capacity of the present factory under the Lilienfield patent.

Louisiana Chemical Co., Baton Rouge, La., plans an addition to its plant, to cost more than $150,000, with equipment. The company is operated by Texas Chemical Co., Houston, Tex., and it is understood that the engineering department of the latter organization will be in charge of the work.

Dehydrating Process Co., Inc., Boston, has leased the building and wharf property at 60 Mount Washington Avenue, South Boston, totaling 33,000 sq. ft. of floor space, and more than 33,500 sq. ft. of land, for a local plant.

Burgess Chemical Co., St. Joseph, Mich., is said to have plans under way for early rebuilding of the portion of its plant recently destroyed by fire with loss estimated at close to $80,000, including equipment.

CELLULOSE ACETATE

Stability - Low Acidity
Clarity - Uniformity

ACETIC ANHYDRIDE – 90/95%

ANHYDROUS SODIUM ACETATE

SODIUM CYANIDE – 96/98%

As agents for JAMES MILLER SON & CO., LTD., Glasgow

CRESYLIC ACID
(Pale 97/99%)

PYRIDINE

SPOT or CONTRACT

ASSOCIATED COMPANIES

Chas. Tennant & Co., Ltd.
Glasgow - Belfast - Dublin

Barter Trading Corp., Ltd.
London - Brussels

AMERICAN - BRITISH CHEMICAL SUPPLIES, INC.

15 East 26th Street — New York, N. Y.

Ashland 2266

[Industrial Chemicals]

Glycerin Market Sags Sharply; Mercury Higher

Action Of Buyers And Heavy Stocks Cause Further Weakness In Former —Mercury Prices Again Advance—High Prices Will Be Maintained Through Season—Alcohol Prices Strong—Re-sale Market Negligible.

Advanced

Mercury $3.00 flask

Declined

Butanol ¼c lb.
Barium Chloride Imp. $1.00 ton
Glycerin C. P. 1c lb
Glycerin dynamite 2c lb
Glycerin Saponification 1½c lb
Glycerin Soap, lye 1½c lb

Trend of the Market

	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Acetic Acid, Glacial, c-l ... lb.	.11⅞	.11⅞	.11⅞	.11½	.19½	...
Sulphuric Acid, Tanks 66 deg. ton	15.00	15.00	15.00	15.00	55.00	20.00
Amm. Sulfate c-l NY 100...lbs.	2.40	2.40	2.40	2.50	7.50	2.65
Bleaching Powder, c-l .100 lbs.	2.00	2.00	2.00	2.00	9.50	1.50
Copper Sulfate c-l NY 100 ...lbs.	5.00	5.00	5.00	4.75	20.00	4.60
Potash Caustic c-l Imp. ....lb.	.07⅛	07⅛	.07⅛	.07⅛	.87	.08
Soda Ash, 58 p.c. c-l ..100 lbs.	1.94	1.94	1.94	1.94	3.50	.60
Caustic Soda 76 p.c. c-l 100 lbs.	3.66	3.66	3.66	3.66	9.50	1.42
Potassium Bichromate .....lb.	.08¼	.08¼	.08¼	.08¼	4.65	.06
Sodium Prussiate .....lb.	.12	.12	.12	.10	1.25	.18
Average	3.046	3.046	3.046	3.012	10.79	2.99

Current Quotations and Comments on Specific Items, Pages 658-662

A further improvement in the purchasing operations of intermediate consumers was noted during the past week, there were no visible price changes, but in many items, some of the "inside" prices that had been quoted were withdrawn. Generally, strength prevails throughout and it would not be surprising to see more price advances within a few weeks. The textile industry is expanding its production, which reflects in the dyestuff field, which in turn reacts in the intermediate market. In view of the firmness and potentialities displayed by some of the more important commodities recently, many consumers are readily closing their contracts for next year.

Paranitraniline, is the one weakness in the market. It possesses a very nervous character as the result of selling pressure, some contracts have been closed other buyers are awaiting a settlement of conditions before placing their orders and buying from hand to mouth. It is certain, however, that when the market returns to normalcy the price will rise and possibly above its former level. There are rumors of an advance in the price of ortho-toluidine, the quantity prices have advanced and the basic prices are expected to follow. Ortho and para fractions of nitrotoluene remain scarce and prices firm with a very steady demand. Increased activity in the rubber field together with the advance in price have added buying interest to both markets.

The recent tariff reduction on phenol, practically prevents the domestic suppliers from raising their price. Foreign material, aided by the cut, may now be landed to keep domestic material at current level. Phenol can be bought for 14.3c lb. in centarl Europe and the landed price in this country is slightly higher than current quotations.

Baltimore prohibition unit is moving its office from the Custom House to the old immigrant buildings at Locust Point, where seized liquor is being stored. The change is distasteful to the chemical, drug and allied trades, who require alcohol in their operations. These interests has protested that removal to a place miles away would cause inconvenience to those obliged, under the law, to secure alcohol withdrawal permits, but all remonstrances were overruled.

HAMBURG EXPORTS DULL

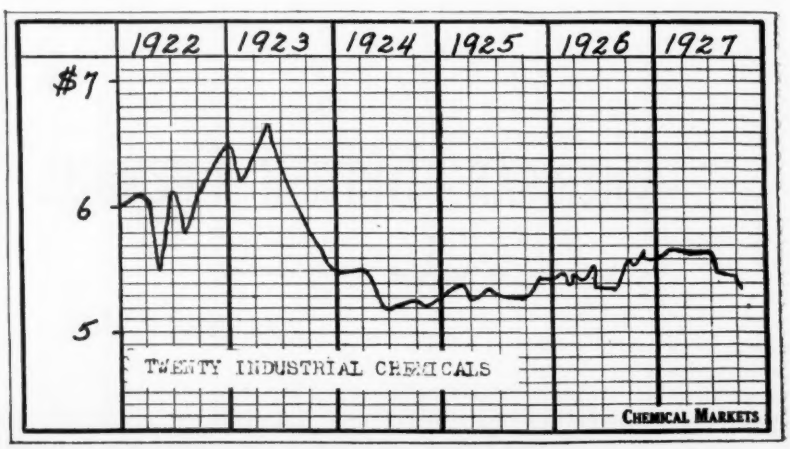
(*Special to* CHEMICAL MARKETS)

Hamburg, Oct. 27.—Export business in heavy chemicals was extremely dull during the last fortnight and the German home trade is also very quiet. Prices of most goods are unchanged but there is no doubt a general downward trend caused by the very keen French competition which is showing its influence here. Most probably the situation will soon change since the end of the German mine strike of Middle Germany has granted higher wages to the miners which means higher prices for a good many articles.

Oxalic acid and sodium sulfide were weaker. Caustic soda and caustic potash were in fair demand. The following quotations are f. o. b. Hamburg; prices in dollars quoted per 100 kilos and prices quoted in £—Sterling per 1000 kilos:

Caustic potash, 88-92%, $14.50; sodium hyposulfite, com. crystals, £7.15, pearls £9.15; caustic soda 128°, £12.12.6; white arsenic, £18.10; epsom salts, tech. crystals, £1.19, U. S. P., £4.5; barium carbonate, 98/100 per cent prec., $3.05; barium chloride, cryst. $2.80; potassium chlorate, powd., $10.90; yellow potassium prussiate £57.2.6; potash alum granular, £7.2.6; potassium carbonate, calc., 96/98 per cent, $12.25; sal ammoniac, white gran., 98/100 per cent, $7.75; sodium sulfide, 60/62 per cent, £7.15; Glauber salts, calc., 95/97 per cent, £2.15; formic acid, 85 per cent, tech., £35.10; oxalic acid, £28.5; blue vitriol, £21.7.6; potassium permanganate £42.

Atmospheric Nitrogen Company, Syracuse, New York, has let a contract for a power plant at Hopewell, Virginia, to cost about $8,500,000 as the initial step in the building of nitrate plants at that point, estimated to cost possibly over $100,000,000.



Diethylene Glycol

A Hygroscopic Solvent

Diethylene Glycol (di hydroxy ethel ether) is a colorless, odorless liquid boiling at 245°C. It is considerably more hygroscopic than glycerine, and for this reason has been used in the manufacture of materials such as composition cork and parchment paper that must be kept pliable over a long period of time. It has been used as a lubricant in the spinning of textiles, and in the coning of silk. Unlike glycerine, Diethylene Glycol, due to the inclusion of the ether group, is an excellent solvent and will dissolve nitrocellulose, resins, and many organic liquids.

The hydroxyl groups can be replaced by other radicals to yield such products as Diethylene Glycol Dinitrate, which has been used as an explosive, or Diethylene Glycol mono ethyl ether, a nitrocellulose solvent.

The price of Diethylene Glycol is considerably lower than that of other materials used for the same purposes.

CARBIDE AND CARBON CHEMICALS CORPORATION

Carbide and Carbon Building

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UCC

Unit of Union Carbide and Carbon Corporation

[Crudes & Intermediates]

Intermediate Market Featured With Good Sales

Prices Generally Strong—Advances In Some Intermediates May Be Seen Shortly—Presidential Cut In Phenol Tariff Aids Consumer By Practically Fixing American Price—Price Advance Will Cause Foreign Competition.

Advanced
No advances
Declined
No declines

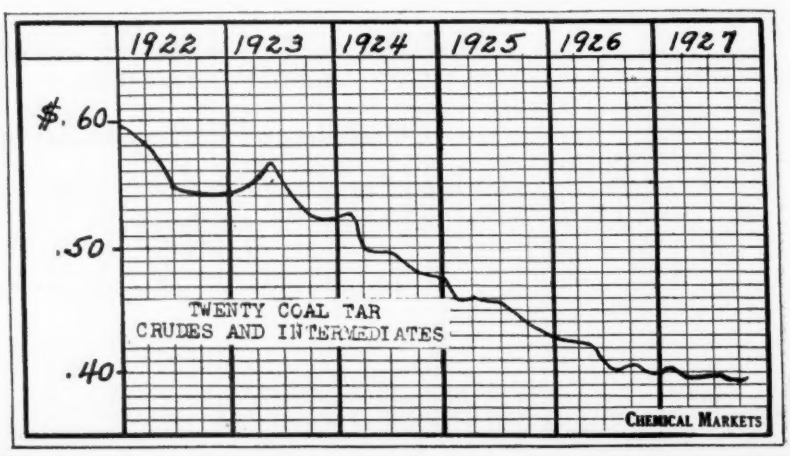
	Trend of the Market					
	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Benzene ,pure tanks wks. ...gal.	.21	.22	.22	.24	1.10	.25
Naphthalene flake .....lb.	.05	.05	.05	.04½	.16	.03
Phenol Spot .....lb.	.19	.17	.19	.18	1.50	.08
Toluene tanks wks ..... gal.	.35	.35	.35	.35	...	...
Aniline Oil lc-l	.15¾	.15¾	.15¾	.15	1.40	.10½
Alpha-naphthylamine .....lb	.35	.35	.35	.35	1.28	—
Benzaldehyde .....lb	.70	.70	.70	.70	—	—
Betanaphthol bbls .....lb	.24	.24	.24	.24	1.50	.08
Dimethylaniline c-l	.32	.32	.32	.32	1.30	
Paranitroaniline bbls. .....lb.	.48	.52	.52	.52	1.58	.18
Average	0.3047	0.3097	0.3097	.311		

Current Quotations and Comments on Specific Items, Pages 658-662

Contract closings occupy the place of prominence in the heavy chemical field at this time and prices are temporarily stabilized as a consequence.

The outstanding feature of the week took place in the form of an advance in the mercury market. The market has reflected in the firmness of the Spanish and English markets as well as the continued strength of its position here and it is now definitely established that the price of mercury will not descend below $100.00 flask for the balance of the season. The alcohol market is unchanged, except for the increasing size of the re-sale market, which is insufficient, however, to create any weakness in distiller's quotations. Movement from Western distributing bases has increased greatly following a cold wave and has removed any inclinations on the part of distillers to shade quotations in effort to dispose of stocks. The glycerin market is again weaker, and although it is yet too early to ascertain the strength of these prices, the opinion of a great many is that even lower quotations will be seen, at least until the end of the year. Purchasers have held off and still retain the hand-to-mouth policy. There is not very much life in the present markets for chlorine and heavy alkalies, all interest is centered in the prices for next year. Lacquer solvents are moving in good quantity, prices have been lowered in some commodities but consumers have reacted favorably to the new prices and they are apparently firm. Ammonium chloride is settled at the recently established price, importers have acknowledged the fact of domestic control and most of them quote prices higher than those of the domestic factors. Barium chloride is in better supply on spot and importers have reverted to their former quotations, under those of domestic prices.

Dr. Fritz Bluethgen, head of the German Glanstoff-Bemberg interests and a leading figure in both the German industry and the international rayon combine, arrived on the liner Homeric yesterday. He will spend but a short time in New York, from which city he will proceed to Johnson City, Tenn., where he will confer with officials concerning progress made on the new Glanstoff-Bemberg fiber units near there.



SYNTHETIC DYE IMPORTS EXCEED OCTOBER 1926

Imports of synthetic dyes during the month of October totaled 417,626 pounds, valued at $313,122, against 396,432 pounds, valued at $325,338, in September and 460,351 pounds, valued at $406,167, in October, 1926, according to figures compiled jointly by the Department of Commerce and the United States Tariff Commission. Sixty-one per cent of the month's imports were from Germany and 27 per cent from Switzerland. The greater part of the October imports, 409,843 pounds, valued at $302,894, entered through the Port of New York.

Aromatic chemical imports for the month totaled 14,162 pounds, valued at $23,408, against 13,525 pounds, valued at $16,103, in September and were the heaviest recorded since last May. Receipts of color lakes totaled 1,783 pounds, valued at $1,389, against 950 pounds, valued at $769 in September, and receipts of medicinals, photographic developers, intermediates and other coal tar products totaled 69,719 pounds, valued at $45,773, against 126,820 pounds, valued at $63,496, in the preceding month.

AUGUST BENZOL EXPORTS

(*Special to* CHEMICAL MARKETS)

Washington, D. C., Nov. 9—August exports of benzol amounted to 2,422,390 gal., valued at $564,731 and exports of crude coal tar and coal tar pitch during the same month totalled 10,466 barrels valued at $41,916. "Other crude distillates" exported during August amounted to 1,722,756 pounds valued at $52,351.

Also during August 139,115 pounds of intermediates, coal tar products were exported valued at $28,744. Colors, dyes and stains exported during that month amounted to 2,254,089 pounds valued at $525,224.

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ANILINE
and
NITROBENZENE
(Oil of Mirbane)

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Diligent research by du Pont Chemical Engineers during that time has yielded such important improvements in quality as to establish new standards of PURITY.

When you purchase DU PONT ANILINE and NITROBENZENE you obtain chemicals of unsurpassed purity that does not vary from one shipment to the next. You have this assurance whether you buy in drums or in tank cars. May we submit samples for comparison?

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[Oils and Fats]

Cottonseed Advance Feature of Quiet Market

Otherwise Market Is Dull and Featureless—Animal Oils Show Weaker Tendency—Soya Bean Oil Scarce—Olive Oil Foots Off a Bit—Linseed Quiet.

Advanced

Cottonseed oil, ¼c lb
Greases, ⅛c@⅜c lb
Oleo oil, ¼c lb
Soya bean oil, ¼c lb

Declined

Corn oil, ¼c lb
Neatsfoot oil, ½c lb
Olive oil foots, ¼c lb
Stearine oleo, 1c lb

Trend of the Market

	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Lard No. 1 .....gal.	.84	.91	.81⅜	.82¾	2.90	.92
Neatsfoot 20 deg. ct. .....gal.	1.27¾	1.31¼	1.26	1.17¼	8.45	.95
Stearic Acid T. P. .....lb.	.13¼	.13¼	.13¼	.15¼	.38	.12
Coconut Ceylon tanks .....lb.	.08⅝	.08⅞	.08⅝	.08¾	.40	.14
Cottonseed, crude tanks .....lb.	.09¼	.09½	.09¾	.07¼	.25	.08
Linseed crude c-l bbls .....gal.	.72	.73¾	.75¾	.84¼	1.85	.57
Olive, denatured .....gal.	1.60	1.55	1.60	1.50	4.60	1.05
Peanut refined .....lb.	.15	.15	.15½	.14	.30	.08
Soya Beans bbls .....lb.	.12	.12	.12	.12¼	.19¼	.07
Average	5.019	5.091	5.113	0.546	5.92	1.50

Current Quotations and Comments on Specific Items, Page 664

The local oils and fats market has passed through another very routine week, marked only by a slight advance in cottonseed oil. The number of changes is unusually small and even those are of minor importance.

Aside from the extremely firm position of cottonseed oil, the week is chiefly interesting as marking first signs of a weaker position of the animal oils and fats group. This group which has maintained a strong position over a long period, is beginning to weaken in some items because of plentiful supplies and the fact that medium grades have not been moving, thus forcing the entire market down. This weakness, however, is not manifest throughout the group, for oleo oil and greases maintain their firm position, each having advanced further.

Soya bean oil continues to be very scarce, which fact, in addition to strong demand, has caused a further advance in price. Despite the advance and firm position of cottonseed oil, corn oil has declined.

Olive oil foots continues to attract considerable interest, but has also declined further, despite the predictions of many factors that it would be very strong by this time. Although palm oil has not changed in price during the past week, the market seems stronger and advances may follow to bring it more in line with existing tallow prices. However, the edge has been taken off the tallow market and it seems very probable that it may come down to a more normal relationship with palm oil.

Neatsfoot oil and stearine oleo are the two animal oils which have declined during the week. Others in this group which have not been mentioned remain unchanged but in weakened positions, as has been indicated.

Consolidated Paper Co. Monroe, Mich., has completed plans for a new addition to its plant, for which superstructure will be placed under way at once. It is reported to cost in excess of $75,000, with equipment.

Hudson Tanning Co., Gloversville, N. Y., is said to be planning the rebuilding of the portion of its leather tannery recently destroyed by fire with loss of more than $60,000, including equipment.

FATS, OILS PRODUCTION

(*Special to* CHEMICAL MARKETS)

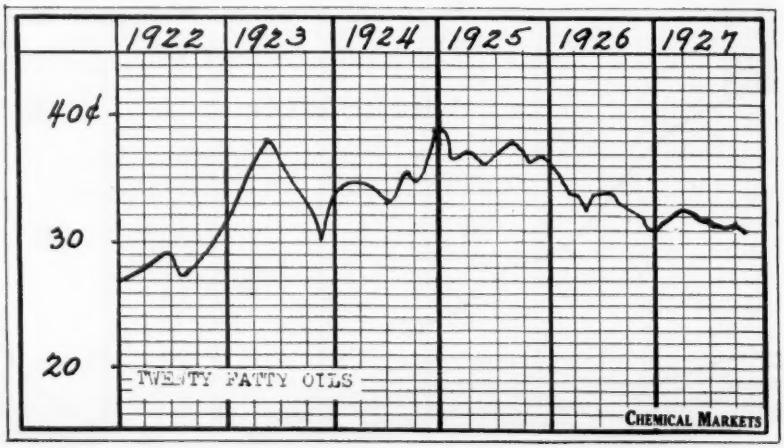
Washington, D. C., Nov. 4.—Department of Commerce announces that factory production of fats and oils (exclusive of refined oils and derivatives) during the three month period ended Sept. 3, was as follows: vegetable oils, 524,720,075 lbs.; fish oils, 36,869,026 lbs.; animal fats, 484,996,341 lbs.; and grease, 91,019,837 lbs.; a total of 1,137,605,279 lbs. Of the several kinds of fats and oils covered by this inquiry the greatest production, 372,972,417 lbs., appears for lard. Next in order is cottonseed oil with 246,796,510 lbs.; linseed oil with 169,273,970 lbs.; tallow with 109,859,911 bs.; coconut oil with 65,606,934 lbs.; and corn oil with 30,395,909 lbs.

Production of refined oils during the same period was as follows: Cottonseed, 164,848,061 lbs.; coconut, 57,003,280 lbs.; peanut, 1,295,760 lbs.; corn, 23,708,114 lbs.; soya bean, 2,258,807 lbs.; and palm kernel, 537,744 lbs. The quantity of crude oil used in production of each of these refined oils is included in the figures of the crude consumed.

Canadian Firestone Tire & Rubber Co., Hamilton, Ont., operated by the Firestone Tire & Rubber Co., Akron, Ohio, plans additions in its mill to increase the present output about 40 per cent, estimated to cost approximately $500,000, with machinery.

State Board of Education, Albany, N. Y., is planning a chemical laboratory in a proposed vocational arts building at State Normal School, Oswego. The school is estimated to cost approximately $200,000.

Mount Royal Color & Varnish Co., Montreal, Que., plans a two-story addition to its plant, to cost about $35,000.



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In a very real sense, the General Chemical Company is at the service of the customer. To a large extent, the Company's business is conducted in conformity with the requirements of its customer. Under such conditions, mutual satisfaction and profit can result only where there is the most friendly co-operation between Company and customer—mutual confidence, and the good will which lends the flavor of friendship to business relations. The General Chemical Company is proud to know that its customers are also its friends.

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THE NICHOLS CHEMICAL COMPANY, LIMITED, MONTREAL

GC 220

[Agricultural Chemicals]

Quiet Prevails in Agricultural Chemical Market

Sodium Nitrate Market Quiet In All Directions—Very Limited Amount Of Future Buying—Consumers Awaiting Release Of Insecticide Schedule For Next Year—Blood And Tankage Still High

Advanced
Tankage N. Y. 5c unit
Declined
No declines

Trend of the Market

	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Acid Sulfuric 66° .....ton	$15.00	$15.00	$15.00	$15.00	$55.00	$20.00
Amm. Sulfate .....100 lbs.	2.35	2.35	2.35	2.50	1.75	2.65
Arsenic .....100lbs.	4.00	4.00	4.00	3.50	18.00	4.00
Copper Sulfate c-l .....100 lbs.	5.00	5.00	5.00	4.75	20.00	4.60
Paris Green	.19	.19	.19	.19	.50	.11
Potash Muriate 80% .....ton	36.40	36.40	36.40	34.60	...	...
Potash Sulfate 90% .....ton	47.30	47.30	47.30	45.45	440.00	48.07
Phosphate Acid 16% .....ton	9.00	9.00	10.00	10.00	11.00	3.00
Phosphate Rock 68% .....ton	3.00	3.00	3.00	3.00	2.65	3.00
Sodium Nitrate .....100 lbs.	2.40	2.40	2.40	2.49	5.00	1.90
Average	12.464	12.464	12.464	12.143	10.350	13.84

Current Quotations and Comments on Specific Items, Page 666

An inter-seasonal depression dominates the market for agricultural and insecticide chemicals, which were practically devoid of developments since our last review. This dullness, however, hardly indicates any weakness in prices, in fact, collectively the markets are rigidly strong. The market for nitrate of soda has been quiet for the past month, very little business has been done here or abroad but producers in the source, are maintaining the same prices. The immediate future of the price cannot be discerned, as there is also, a very limited amount of forward buying. The recent subsidy declared by the Chilean Government, is merely an internal issue, and will have no effect on the price.

Dried blood and tankage are still high and unchanged in price, the stock feeding interests continue to consume large portions of the available supply and consumers for fertilizer uses are forced to pay high prices and can only obtain limited quantities. Although prices held firmly through October despite expansion of operations in meat packing, a continuity might ease the price situation. It is certain that prices of fish scrap will maintain their consistent high levels as fishing will terminate soon and the poor results of the entire season, has caused producers to cancel their contracts. Nitrogenous material is scarcer on spot and consequently higher in price, potash salts are moving steadily, all grades are in better supply, particularly in the South, where arrivals have been the heaviest for some time. The insecticide market is practically stationary and all interest is centered in awaiting the release of prices to extend over next year. The copper sulfate market is unchanged in price, but the heavy volume of business that sellers had been enjoying has eased off, between seasons and should increase its movement in a few months but the price is not expected to decline or advance. Calcium arsenate is also moving in small quantities with weak prices. Phosphate rock is dormant, fish acid is nominally priced and difficult to obtain.

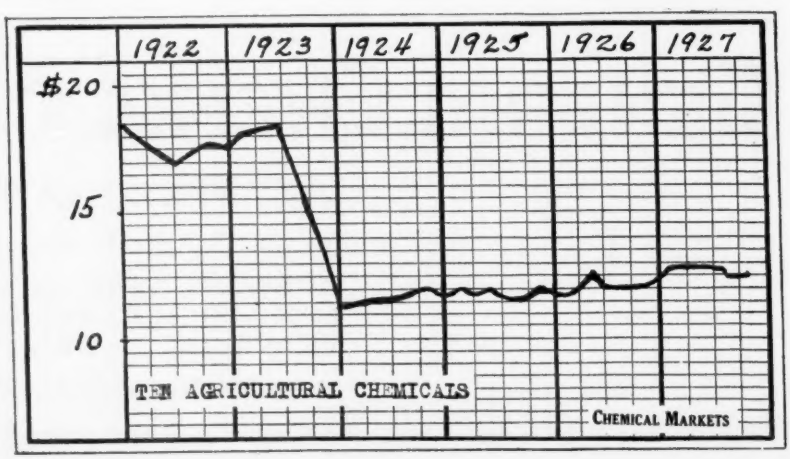
Production of potash in Poland increased during the first half of 1927, the output being registered at 139,919 metric tons of crude salts, as compared with 99,699 tons during the corresponding period of 1926, according to S. de Lasocka, office of Commercial Attache, Warsaw.

FERTILIZER CONVENTION DISCUSSES CROP CONTROL

Two much discussed, public questions—the control of crop surpluses and the Federal Trade Commission's policy toward business were discussed during the annual southern convention of the National Fertilizer association at Atlanta, Nov. 8 and 9. Dr. B. W. Kilgore, Raleigh, N. C., chairman, board of trustees, American Cotton Growers Exchange, spoke on "Stabilized Agriculture—the Hope of Allied Industries." First-hand information concerning the Federal Trade Commission's recently announced policy of "helping industry help itself" was given by Abram F. Myers, lawyer member of the commission. Eugene Talmadge, commissioner of agriculture of Georgia, spoke on "The Place of Fertilizer in a Progressive Farm Program." Other speakers included E. L. Robins, Meridian, Miss., president, National Fertilizer association; former Senator Christie Benet, Columbia, S. C., general counsel, Interstate Cotton Seed Crushers' Association; J. C. Pridmore, Atlanta, director, southern division, Soil Improvement Committee; J. N. Harper, Atlanta, co-director, agricultural service bureau, N. V. Potash Export My.; H. R. Smalley, Washington, director, northern division, Soil Improvement Committee, and Charles J. Brand.

The New British fertilizer "Nitro-Chalk" will be placed on the market in 1928, sales thus far being limited to small lots for experimental purposes, according to Trade Commissioner Homer S. Fox, London. "Nitro-Chalk" is being made at Billingham and marketed by Nitram, Ltd. Two types will be marketed, one containing 10 per cent nitrogen, the other 15-1/2 per cent.

Crimora Fertilizer & Feed Co., Crimora, Va., was recently incorporated with a capital of $25,000.



* Sulphocyanides

USERS find our specialized service on Sulphocyanides particularly advantageous. The rapid increase in our sales of these products, reflects the satisfaction of those who are using them.

We are now supplying several of the more important Sulphocyanides in aqueous solution, as well as in the conventional technical grade crystals.

Attention is drawn to the economy of these solutions, compared with crystals which must be dissolved eventually.

The several Sulphocyanide solutions offered may be employed in all instances where a concentrated material of absolute purity is not essential. Technical crystals conforming to high standards of purity are also offered as previously indicated, to supply the demand for this grade of work.

CALCIUM SULPHOCYANIDE (75% Aqueous Solution)	Recommended for printing on artificial silks where the presence of an insoluble precipitate is not detrimental.
ALUMINUM SULPHOCYANIDE (25% Aqueous Solution)	Specially prepared for textile consumers who have been making their own product from Barium Sulphocyanide.
SODIUM SULPHOCYANIDE (50% Aqueous Solution)	An economical substitute for crystals whenever a solution can be used either in Textile work or in chemical manufacturing.
TECHNICAL CRYSTALS	For textile printing, electroplating, etc.
AMMONIUM SULPHOCYANIDE (Technical Crystals)	For textile printing on artificial silks, recommended in instances where a high degree of purity is essential in the reagent.

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AMERICAN CYANAMID COMPANY

Pioneer Producers of Air Nitrogen Products in America

535 Fifth Avenue New York, N. Y.

[Industrial Raw Materials]

Rosin Quotations Decline Heavily

Buying Interests In Command Of Price Situation Will Probably Remain Weak Until Suspension Of Production—Turpentine Lower—Tanning Materials Dull—Valonias Continue To Be Quoted Nominally—Shellac Soft.

Advanced
Gambier 1c lb

Declined

Archil 1c lb
Rosin B, 80c 280 lbs
Rosin D,E,F,G,H, 70c 280 lbs
Rosin I,N, 30c 280 lbs
Rosin WG, 40c 280 lbs
Rosin K,M, 35c 280 lbs
Rosin WW, 45c 280 lbs

Current Quotations and Comments on Specific Items, Page 666

The industrial raw material group passed through a quiet and uninteresting week and its outstanding feature was the continued weakness characterizing the rosin market. The market suffered sharp declines during the week and buyers are evidently in control at Savannah and are forcing prices downward. Their ability to do this is aided by the fact that operations are still progressing in the interior and receipts continue to be of good size. When the production is suspended for the winter, the prices will doubtlessly rise, although not to any great extent as sellers are anxious to hold the prices down and discourage production, so that they may be able to obtain high prices for next season's material. Turpentine is also lower for the week, but a sizable demand will probably effect a recovery in prices.

The market for tanning materials is very quiet. Some prices have been advanced owing to scarcities on spot and the remainder are unchanged but are more or less nominal by virtue of the absence of business. Valonia prices are only nominally quoted as the recent attitude adopted by the Turkish Government, regarding their foreign policy has hindered trading and valonia buyers are forced to await results. Waxes are in sufficient demand to settle prices. Japan wax, is still in abundant supply and prices are consequently weak.

Shellac is quiet, unchanged in price and subject to shading, owing to the sharpness of selling pressure among the local dealers.

(*Special to* CHEMICAL MARKETS)

Savannah, Ga., Nov. 7, 1927.—The turpentine market suffered a sharp reduction this week and closing sales were made at 44c gal. Some sales have been made at 43½c gal. and a continued reluctancy on the part of the buyers will probably force the general market down to this figure and possibly lower. The weather has been favorable to producers and they are still operating. Offerings in the open market have been liberal and the coming week will doubtlessly bring lower prices. When production is halted, prices usually advance but the trade seems well supplied and sellers are holding the prices low so as to curtail production next year and obtain higher prices then. Receipts this week were 3,861 barrels, sales were reported at 2,574 barrels (possibly 1,000 barrels additional on private terms), shipments 9,495 barrels. Present Savannah stock 23,917 barrels.

The rosin market declined heavily and may descend lower this week, owing to the inclination on the part of buyers to encourage sellers to lower their quotations. With a liberal amount of receipts expected for an indefinite period, buyers are taking advantage of the soft market and will hold prices at a low plane until production is suspended. Receipts of rosin for the week, were 15,232 barrels, sales of 9,176 barrels were reported, (about 5,000 barrels additional sold on private terms), shipments amounted to 29,211 barrels. Present Savannah stock 102,818 barrels. Present prices are: X, $10.00; WW $8.75@$9.00; WG, $7.50; N, $7.05; M, $6.90; K, $6.80; I,H,G,F,E,D,B, $6.75.

Jacksonville Fla.—Turpentine at 44¼c gallon as the result of conditions at Savannah. Rosins also weaker at the following prices: X, WW, $9.85; WG, $8.85; N, $7.35; M, $7.00; K, $6.85; I,H,G,F,E,D,B, $6.75. Savannah stocks November 5th. Turpentine 31,815 barrels, rosin 97,458 barrels.

FRENCH NAVAL STORES

(*Special to* CHEMICAL MARKETS)

Washington, D. C., Nov. 9—The export price of turpentine on October 31 in the Landes district was 390 francs per 100 kilos, equivalent to $.485 per gal., with the market quiet, according to a cable to the Department of Commerce from Consul Lucien Memminger, Bordeaux. The price of WW rosin was 245 francs per 100 kilos, equivalent to $10.12 per 280 lbs. The scrape crop is now proceeding and is favored by good weather but total production of earlier dips showed deficit. The turpentine exports for September amounted to 1,098 metric tons and rosin 5, 684 metric tons.

CHEMICAL EMPLOYMENT HAS GROWN THIS YEAR

Albany, Nov. 7—Most manufacturing industries in New York State, said Industrial Commissioner James A. Hamilton today, had fewer employees in September 1927 than a year ago. The index of employment declined from 99.4 in September 1926 to 96.2 in September 1927, a drop of three points.

The chemical group is running counter to the prevailing quiet. Soap, photographic and industrial chemical products firms retained more employees on their payrolls than they did a year ago in September 1926, and in most chemical industries more than two year ago, in September 1925. Petroleum refineries and paint and color plants had the same number of employees on their payrolls as in September 1926.

Exports of phosphoric acid salts including sodium and ammonium phosphates from Germany, increased during the first 8 months of 1927 to 7,984 metric tons, from 3,533 tons during the corresponding period of 1926. The United States was the principal outlet for German phosphates, followed by Great Britain and South Africa. According to American statistics imports of sodium phosphates from all countries during the first 8 months of 1927 were 5,463 short tons $(257,604) a marked increase over entire 1926 receipts of 4,528 tons ($227,932).

Connellsville, Pa., coke production for week ended October 22 was 48,530 tons, a decrease of 3,330 tons from preceding week. This is the lowest figure since the 46,320-ton total recorded the week ended August 9, 1924. Total production to October 22, this year, amounted to 4,247,920 tons a decrease of 2,780,590 tons from the corresponding period of 1926.

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Prices Current

Heavy Chemicals, Coal-tar Products, Dye-and-tanstuffs, Colors and Pigments, Fillers and Sizes, Fertilizer and Insecticide Materials, Naval Stores, Fatty Oils, etc.

Chemical prices quoted herein are those of American manufacturers for goods, spot New York, f. o. b., or ex-store, for immediate shipment, unless otherwise specified. Industrial chemical products sold principally on a basis of f. o. b. works are specified as such. Quotations on imported chemicals are so designated. Resale stocks sufficient to be a factor in the market, are quoted in addition to makers' prices and are indicated as "second hands."

Oils and fats are quoted spot New York, or ex-dock. Quotations on products sold f. o. b. mills, or spot Pacific Coast are so designated.

Industrial raw materials are quoted spot New York, f. o. b., or ex-dock. Materials sold f. o. b. works or delivered at various sections of the country are so designated.

The range of prices given is not "bid and asked," but indicates quotations from different sellers, based on varying grades or quantities or both. Containers named are the original packages most commonly used in the New York market.

Chemicals

Acetaldehyde			Alcohol Isopropyl
Alcohol Ethyl			Butyl Tartrate

Acetaldehyde drs. lc-l wks	lb.	.24	.26
ACETANILID, tech 150 lb bbls	lb.	.20	.21
Acetic Anhydride 92-95% 100 lb cbys	lb.	.29	.35
Acetone, CP, 700 lb drs c-l wks	lb.	...	.12
Acetone Oil drs N. Y.	gal.	1.65	1.75
Acetyl Chloride, 100 lb cbys	lb.	.42	.45
ACID, Acetic, 28% 400 lb bbls c-l wks	100 lb.	...	3.38
Glacial bbls c-l wks	100 lb.	...	11.92
Benzoic, tech., 100 lb bbls	lb.	.57	.60
Boric crys., powd., 250 lb bbls	lb.	.08½	.11
Carbolic 10% 50gal bbls		.25	.28
Chlorosulfonic 1500 lb drs wks	lb.	.15	.16
Chromotropic, 300 lb bbls	lb.	1.00	1.06
Citric, USP,cryst 230 lb bbls	lb.	.44	.55
Cleve's' 250 lb bbls	lb.	.95	.97
Cresylic, 95% dark drs NY	gal.	.65	.67
97-99% pale NY	gal.	.70	.72
Formic, 85% tech., 140 cbys	lb.	.11	.12
Gamma, 225 lb bbls wks	lb.	1.00	1.06
H 225 lb bbls wks	lb.	.57	.63
Hydrobromic, 48% com'l 155 lb cbys wks	lb.	.45	.48
Hydrocyanic wks cyl	lb.	.80	.90
HYDROFLUORIC, 30% 400 lb bbls wks	lb.	...	.06
Hydrofluosilicic, 35% 450 lb bbls wks	lb.	...	.11
LACTIC, 22% dark 500 lb bbls	lb.	.05½	.06
44% light bbls	lb.	.13	.13½
Laurent's 250 lb bbls	lb.	.52	.54
Metanilic 250 lb bbls	lb.	.60	.65
Mixed, Sulfuric-nitric Drums, wks N Unit		.07¾	.08
Drums, wks S Unit		.01	.01⅛
Monosulfuric FDelta 50 lb tins	lb.	...	.65
MURIATIC, 20° cbys wks 100 lb	lb.	1.70	1.80
18° 120 lb cbys c-l wks	100 lb.	...	1.35
Naphthionic tech, 250 lb bbls	lb.	.55	.59
N & W 250 lb bbls	lb.	.95	.99
NITRIC 36° 135 lb Cbys c-l wks	100 lb.	...	5.00
40° cbys c-l wks	100 lb.	...	6.00
Oxalic, 300 lb bbls wks N Y	lb.	.11	.11⅛
Phosphoric, 50% 150 lb cbys	lb.	.08	.08½
Syrupy USP, 70 lb drums	lb.	...	.16
Picramic, 300 lb bbls	lb.	...	.50
Pyrogallic tech 200 lb bbls	lb.	...	.86
Salicylic tech., 125 lb bbls	lb.	.27	.32
Sulfanilic, 250 lb bbls	lb.	.15	.16
SULFURIC, 66° 180 lb cbys c-l wks	100 lb.	1.60	1.95
1,500 lb drums wks	100 lb.	...	1.20
60° 1,500 lb drums wks	100 lb.	...	1.10
Oleum 20 pc 1500 lb drums c-l wks	100 lb.	...	1.50
Oleum 40%drs lc-l wksnet	ton.	...	42.00
Tannic, tech., 300 lb bbls	lb.	.30	.40
Tartaric, USP, cryst powd 300 lb bbls.	lb.	.36	.37
Toluic, 250 lb bbls	lb.	...	.85
ALCOHOL, Butyl Normal 50gal drs wks c-l	lb.	...	.20
Drums lc-l wks	lb.	...	.19½
Tank cars wks	lb.	...	.19
Diacetone, 50gal drs del	gal.	1.70	1.90
Ethyl USP190pf 50 galbbls	gal.	...	3.70
Anhydrous, drums	gal.	.50	.55
Ethyl, Denatured No. 1 Complete denat 190pf 50 gal drums extra	gal.	...	.52
No. 5 Complete denat 188pf 50 gal drums extra	gal.	...	.50
Tank cars	gal.	...	.46

Acetone — The market remains firm at 12c lb. with a continued lively demand for both domestic and foreign consumption.

Acid Acetic — This market continues to be featured with a strong demand in reflection of increasing activity in the textile industry. Prices are very firm at $3.38 100 lbs. for twenty-eight degree material. Glacial acid is similarly strong at $11.92 100 lbs. in carlots.

Acid Benzoic — Technical benzoic acid is unchanged in price at 57c@60c lb. and is moving in average lots. There is no immediate change looked for in the price of this commodity.

Acid Citric — Price of 44c@55c lb. are still being quoted, depending upon the source, but there is not very much business going on and quotations are subject to shading.

Acid Cresylic — The market is very strong in all directions. Prices of 65c@67c gal. for dark and 70c@72c gal. for pale acid, are very firm and heavy interest from the consuming end is evidenced by the constant flow of orders and inquiry. Another advance in this market would not be surprising.

Acid Formic — Business on this market proceeds steadily with prices quoted at 11c@12c lb. and appearing firm, although some weakness has been seen.

Acid H — This market is devoid of developments, there is very little spot business, contract withdrawals are of average size and the current feature of the market is preparation for closing contracts over 1928.

Acid Muriatic — Usual conditions are prevailing in this market. Present prices are $1.70@$1.80 100 lbs. for 100° acid in carboys and $1.35 100 lbs. for 18° material in carboys.

Acid Oxalic — A lively demand continues to feature this market and prices are firm at 11c@11½c lb. The producers have been working on a

ALCOHOL Isopropyl, refined gal drs	gal.	1.00	1.25
Propyl nml., 50gal drs	lb.	...	1.00
Aldehyde Ammonia, 100gal drums	lb.	.80	.82
Alpha-Naphthol crude 300 lb bbls	lb.	...	.65
Alpha-Naphthylamine, 350 lb bbls	lb.	.35	.37
ALUM, Ammonia, lump, 400 lb bbls wks lc-l	100 lb.	3.25	3.30
Chrome, 500 lb cks. wks	lb.	5.25	5.50
Potash, lump, 400 lb wks	100 lb.	3.10	3.20
Chrome, 500 lb caskswks	100 lb.	5.25	5.50
Soda Grd., 400 lb bblswks	100 lb.	...	3.75
Aluminum metal, c-l NY	100 lb.	...	26.00
Chloride, anhyd 275 lb drs	lb.	.35	.40
Hydrate 96% light 90 lb bbls	lb.	.17	.18
Stearate, 100 lb bbls	lb.	.23	.24
SULFATE, Iron-free bags c-l wks	100 lb.	...	1.75
Com'l bags c-l wks	100 lb.	...	1.40
Aminoazobenzene, 110 lb kegs	lb.	...	1.15
AMMONIA, anhyd, 100 lb	lb.	.11	.12½
Water, 26° 800 lb drs del	lb.	...	.03
Bifluoride, 300 lb bbls	lb.	.21	.22
Carb. tech., 500 lb cases	lb.	.08¾	.09
Chloride White bbls wks 100	lb.	5.05	5.25
Gray, 250 bbls wks	lb.	05¼	.05¾
Lump, 500 lb casks spot	lb.	.11	.11¼
Lactate, 500 lb bbls	lb.	.15	.16
Persulfate, 112 kegs	lb.	.27½	.30
Phosphate Tech., powd 325 lb bbls	lb.	...	.18
Sulfate, bulk c-l	100 lb.	2.35	2.40
Southern points	100 lb.	...	2.35
Amyl-Acetate, tech., 50 gal drs	gal.	1.90	2.00
Alcohol, see Fusel Oil			
ANILINE OIL, 960 lb drums	lb.	.15¼	.16¼
Anthraquinone, sub 125 lb bbls	lb.	.90	1.00
Antimony metal slabs tons lots	lb.	...	.11¼
Needle powd 100 lb cs	lb.	.15½	.16
Oxide, 500 bbls	lb.	.16¼	.17
Arsenic Red, 224 kegs cases	lb.	.10½	.11
White 112 lb kegs	lb.	...	.04
BARIUM Carbonate 200 lb bgswkston		47.50	50.00
Chlorate, 112 lb kegs NY	lb.	.12	.12¼
Chloride, 800lb bbl wks	ton	57.50	59.00
Dioxide, 88% 690 lb drs	lb.	.13	.13½
Hydrate, 500 lb bbls	lb.	.04¾	.04¾
Nitrate, 700 lb csks	lb.	.07½	.08
Barytes, floated 350 lb bbls wks	ton.	23.00	24.00
Benzaldehyde tech. 945 lb drs wks	lb.	.65	.70
BENZENE Comm. 90% 8,000 gal tkswks	gal.	.21	.23
Commercially pure tks wks	gal.	.21	.23
Benzidine Base, dry 250 lb bbls	lb.	.70	.74
Benzoyl Chloride 500 drs	lb.	...	1.00
BETA-NAPHTHOL 250 lb bblswks	lb.	...	.24
Beta-Naphthylamine tech 200 lb bbls	lb.	.63	.65
Sublimed, 200 lb bbls	lb.	...	1.35
Blanc Fixe, 400 lb bbls wks	ton.	80.00	90.00
BLEACHING POWDER, 700 lb drs c-l wks contract	100 lb.	...	2.00
300 lb drs c-l wks contract	100 lb.	...	2.25
Blues, bronze Chinese, Milori Prussian Soluble	lb.	.28	.30
Bone Ash, 100 lb kegs	lb.	.06	.07
Black, 200 lb bbls	lb.	...	.03¼
Borax, crys., 500 lb bbls	lb.	.04½	.05
Bordeaux Mixture, 16% pd	lb.	.11	.12
Paste, bbls	lb.	.08	.10
Butyl Acetate normal tk drs wks	gal.	...	1.55
Drums lc-l wks	gal.	...	1.60
Secondary 50gal drums	gal.	1.00	1.05
Aldehyde 50gal drs wks	lb.	.70	
Propionate, drs.	lb.	.34	.36

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Chemicals

Stearate 50gal drs.	lb.	...	.60
Tartrate drs.	lb.	.57	.60
CALCIUM Acetate 150 lb bgs c-l	100 lb.	...	3.50
Arsenate, 100 lb bbls c-l wks	lb.	.07½	.08
Carbonate, tech 100 lb bags c-l	100 lb.	1.00	1.10
CALCIUM Chloride solid 650 lb drs c-l f.o.b. wks	ton.	21.00	23.00
Flake, 375 lb drs c-l wks	ton.	...	27.00
Nitrate, 220 lb bbls c-l NY	ton.	...	52.00
CALCIUM, Phos., tech450 lb bbls	lb.	.09	.10
CAMPHOR, Amer ref. 250 lb bbls	lb.	...	.62
Jap., ref slabs 100 lb cs	lb.	.60	.63
Carbon Bisulfide 500 lb dr lc l NY	lb.	.05½	.06
Carbon Black 100-300 lb cs lc-l	NY lb.	...	.12
Decolorizing 40 lb bags c-l	lb.	.08	.15
Carbon Dioxide, Liquid 20-25cy	lb.	...	.06
Tetrachloride, 14000 lb drs del	lb.	.07	.07½
Casein, Standard ground	lb.	.17¼	.17½
Cellulose Acetate, 50 lb kegs	lb.	...	1.40
Chalk, drop 175 lb bbls	lb.	.03	.03¾
Precip., light 250 lb bbls csks	lb.	...	.04½
Precip., heavy 560 lb csks	lb.	.02¼	.03½
CHLORINE, Liquid tank or multi-unit cer, contract	wks lb.	...	.04
Carlots cyl wks contract	lb.	...	.05½
lc-l cyl wks contract.	lb.	.08	.09
Chlorobenzene, mono, 100 lb drs wks lc-l	lb.	...	.07
CHLOROFORM, Technical 1,000 lb drums	lb.	.20	.22
Chromium Acetate 20° sol'n400 lb bbls	lb.	...	.05½
Fluoride, Powd., 400 lb bbls	lb.	.27	.28
Oxide, Green bbls	lb.	.34½	.35½
Chrome Green, CP	lb.	.26	.29
Comm.	lb.	.06½	.11
Chrome Yellow	lb.	.16½	.17
Clay c-l Bulk, Del.,	ton.	16.00	18.00
COPPER, metal electrolytic.100 lb.		12.90	13.00
Carbonate 400 lb bbls	lb.	.16¼	.17¼
Chloride 250 lb bbls	lb.	...	.28
Cyanide 100 lb drs	lb.	.48	.50
Oxide, red 100 lb bbls tons	lb.	.16½	.17
Sub-acetate verd 440 lb bbls	lb.	.18	.19
SULFATE, Carlots, bbls wks 100 lb.		...	5.00
Copperas bulk, crystal and sugar c-l wks	ton	13.00	14.00
Sugar, 100 lb bbls	100 lb.	1.25	1.35
Cotton Soluble 100 lb wet	lb.	.40	.42
CREAM TARTAR, USP, 300 lb bbls	lb.	.26½	.28
Creosote USP 42 lb cbys	lb.	.40	.42
Creosote Oil Natural 50gal drs	gal.	.20	.21
10-15% Tar Acid	gal.	.25	.26
25-30% Tar Acid	gal.	.28	.29
DIAMINOPHENOL, 100 lb kegs	lb.	...	3.80
Diamyl Phthalate drums, wks	gal.	2.85	2.90
Dianisdine, 100 lb kegs	lb.	3.25	3.35
Dibutyl Phthalate wks	lb.	.29½	.31½
Dibutyl Tartrate, 50gal drums	lb.	.55	.65
Dichloromethane drums, wks	lb.	.23	.25
Diethylamine, 400 lb drs.	lb.	...	2.15
Diethylaniline, 850 lb drs	lb.	.55	.60
Diethye Carbonate 90% drums	gal.	1.85	2.00
Diethyl Phthalate 1,000 drums	lb.	.25	.28
Deithyl Sulfate tech., 50 gal drs	lb.	.30	.35
Dimethylamine, 400 lb drs	lb.	...	2.60
Dimethylaniline 340lb drs. wks	lb.	.30	.32
Dimethysulfate, 100 lb drs	lb.	.45	.50
Dinitrobenzene, 400 lb bbls	lb.	.15½	.16½
Dinitrochlorobenzene, 400 lb bbls	lb.	.15	.16
Dinitrochlorine, 300 lb bbls	lb.	.18	.19
Dinitronaphthalene, 350 lb bbls	lb.	.32	.34
Dinitrophenol, 350 lb bbls	lb.	.31	.32
Dinitrotoluene, 300 lb bbls	lb.	.18	.19
Diorthotolyguanidine, 275 lb bbls wks	lb.	.85	.90
Diphenylamine	lb.	.45	.47
Diphenylguanidine 100 lb bbls	lb.	.68	.72
EPSOM SALT, tech., 300 lb bbls c l NY	100 lb.	...	1.75
Ethyl Acetate, 99% 50gal drs	gal.	...	1.10
85% Ester 110 gal drs	110 gal drs	...	.90
Benzyl Aniline, 300 lb drs	lb.	1.05	1.11
Chloride, 200 lb drs	lb.	...	.22
Lactate drums wks	gal.	...	3.50
Methyl Ketone, 50gal drs	lb.	...	.30
Oxalate drums wks	lb.	.45	.55
Ethylene-Bromide 600 lb drs	lb.	...	.70
Chlorhydrin, anhyd., 50gal drs	lb.	.75	.85
Dichloride, 50gal drs.	lb.	...	.11
Glycol 50gal drums wks	lb.	.30	.40
Ethylidenaniline	lb.	.62	.65
Feldspar bulk	ton.	20.00	25.00
FERRIC CHLORIDE tech., crys. 475 lb bbls	lb.	.07½	.09
Ferrous Chloride cryst tech 475 lb bbls	lb.	.05	.06

full basis and the material is in somewhat better supply.

Acid Phosphoric —Domestic producers still quote the market at 8½c lb. and importers are offering material at 8c lb. Syrupy acid is named at 16c lb. and the entire market is strong and featured with a brisk demand.

Acid Sulfuric — The market continues unchanged, prices are firm and contract business over next year is of prime interest.

Acid Tartaric — Domestic makers have lowered their prices and now name 36½c@37c lb. Importers are quoting below these prices officially naming 36c but these prices may be shaded as well as those of domestic factors. The weakness of this market is due to the passing of the active season and further reduction would not be surprising.

Alcohol Butyl — Although the schedule prices of butanol have been changed, there is no actual difference between them and those of last month. The new schedule reads, for tanks on contract 21.395c lb., drum cars 21.895c lb. and lcl drums 22.395c lb. These prices are all subject to a discount of 2.395c lb. making the basis 19c lb.

Alcohol Denatured — Buying of alcohol is in comfortable proportions with firmness in distillers prices for both No. 1 and No. 5 formulae. The re-sale market is growing in size and is generally priced around 2c lower than distiller's prices but is insufficient to make any impression in the general market. Buying has been greatly accelerated in the West owing to the recent cold wave.

Ammonia — The market is without new features, advanced prices for 1928 have been announced by one maker only. The remaining sellers have not followed but intimate that they will do so.

Barium Chloride —The heavy demand has eased somewhat and prices are as low as $57.50 ton for foreign material. Makers are naming unchanged prices and the market assumes a dull appearance.

Benzene —The market is practically unchanged over the week, a better tone is expected, meanwhile sellers are quoting price at 23c@28c gal., dependant upon quantity, and conceding discounts of 2c gal. on tank car sales.

Beta Naphthol — Prices are very firm at 24c@25c lb. and moving very steadily. Contracts for next year are being closed readily and furnish the only feature of the market.

Fluorspar, 95% 220 lb bags ex-dock	ton.	...	25.00
FORMALDEHYDE USP, bbls 400 lb lc-l wks	lb.	.08¾	.09
Formaldehyde Aniline 100 lb drs	lb.	.39	.42
Furfural 500 lb drums	lb.	...	.17½
Fusel Oil 10% Impurities drs	gal.	...	1.35
G SALT paste 360 lb bbls	lb.	.50	.52
GLAUBER'S SALT, tech., 200 lb bgs c-l wks	100 lb.	1.05	1.10
GLYCERIN, CP, 550 lb drums	lb.	.22	.22½
Dynamite, 100 dr	lb.	.17	.18
Saponification tanks	lb.	.12½	.13
Soap, Lye tanks	lb.	.11	.11¼
Hexalene, 50gal drs., wks	lb.	...	.60
Hexamethylenetetramine drs.	lb.	.62	.65
HYDROGEN PEROXIDE, 100vol 140 lb cbys	lb.	.24	.26
IRON Chloride see Ferric or Ferrous Nitrate, kegs	lb.	.09	.10
Com'l bbls	100 lb.	2.50	3.25
Oxide, red Spanish	lb.	.02½	.03¼
English	lb.	.10	.12
Isopropyl Acetate 50gal drums	gal.	.85	.90
LEAD, Metal c-l NY	100 lb.	...	6.25
Acetate, white crystals 500 lb bbls wks	100 lb.	13.00	13.50
Arsenate, bbls., lc-l wks	lb.	.13½	.14
Nitrate, 500 lb bbls wks	lb.	...	.14
Oxide, Litharge 500 lb bbls	lb.	...	.08¾
Oxide, red 500 lb wks	lb.	...	.09¾
Oleate, bbls	lb.	.17½	.18
White, 500 lb bbls wks	lb.	...	.09
White sulfate 500 lb bbls wks	lb.	...	.08¼
LIME, (Salts, see Calcium Salts) Ground Stone, bags	ton.	...	4.50
Live, 325 lb bbls tons wks	100 lb.	...	1.05
Lithopone, 400 lb bbls lc-l wks	lb.	...	.06½
MAGNESITE, calcined, 500bbls ton.		48.00	50.00
Magnesium Carb., tech., 70 lb bags NY	lb.	.06	.06½
MAGNESIUM, Chloride, flake 575 lb drs c-l wks	ton.	...	37.00
Imp., Flake Shipt.	ton.	...	33.00
Imp., fused 900 lb bbls NY	ton.	...	31.00
Fluosilicate cryst400 lb bbls wks	lb.	.10	.10½
Oxide, USP, light 100 lb bbls	lb.	...	.42
USP, heavy 250 lb bbls	lb.	...	.50
Stearate bbls	lb.	.23	.25
Manganese Borate, 30% 200 lb bbls	lb.	...	.24
Chloride, 600 lb csks	lb.	.08	.08½
Sulfate, 550 lb drums NY	lb.	.07	.07¼
MERCURY, metal 75 lb flask, flask		129.00	132.00
Meta-Nitro-aniline	lb.	.72	.74
Meta-Nitro-para Toluidine, 200 lb bbls	lb.	...	1.70
Meta-Phenylenediamine, 300 lb bbls	lb.	.90	.94
Meta-Toluylenediamine, 300 lb bbls	lb.	.72	.74
METHANOL (Wood Alcohol) drms 95%	gal.	...	.55
97% drums, lc-l	gal.	...	.57
Pure drums, lc-l	gal.	...	.58
Synthetic drums, lc-l	gal.	...	.58
U. S. denat. grd., tanks	gal.	...	.75
Methyl Acetate drums	gal.	...	.95
Methyl Acetone, 100 gal drums	gal.	...	.85
Chloride, 90 lb cyl	gal.	.55	.60
Monethylaniline, 900 lb drs	lb.	...	1.05
Monomethyl paraminophenol sulfate 100 lb drs	lb.	3.95	4.20
NAPHTHALENE, flakes, 175 lb bbls wks	lb.	...	.05
Balls, 250 lb wks	lb.	...	.06
Crushed, chipped bgs wks	lb.	...	.04½
NICKEL, Chloride, bbls kegs	lb.	.21	.24
Oxide, 100 lb kegs NY	lb.	.35	.38
Salt single 400 lb bbls NY	lb.	.08¾	.09
Double, 400lb bbls NY	lb.	.09	.09¾
Nicotine, Free,40% 8 lb tins cs	lb.	1.25	1.30
Nicotine Sulfate 10 lb tins	lb.	...	1.10
Nitro Cake 500 lb bbls	ton.	13.00	14.00
Nitrobenzene, Redistilled 1000 lb drs wks	lb.	.10¼	.10½
Nitronaphthalene, 550 lb bbls	lb.	...	.25
Nitrotoluene, mixed 1,000 lb drs wks	lb.	.14	.15
Orange-Mineral, 1100 lb cks. NY	lb.	.13	.13¼
Ortho-Aminophenol, 50 lb kegs	lb.	2.20	2.25
Ortho-Anisidine, 100 lb drs	lb.	2.35	2.50
Ortho-Dichlorbenzene	1,000 lb.	.06	.07
Ortho-Nitrochlorobenzene, 1,200 lb drs. wks.	lb.	.32	.35
Ortho-Nitrophenol, 350 lb	lb.	.85	.90
Ortho-Nitrotoluene, 1,000 lb drs wks	lb.	.17	.18
Ortho Toluidine lc-l 350lb bbls	lb.	.29	.31
Para-Aminoacetanilid, 100 lb bgs	lb.	1.00	1.05
Hydrochloride, 100 lb kegs	lb.	1.25	1.30
Para-Aminophenol, 100 lb kegs	lb.	...	1.15

Pure Phthalic Anhydride

Phthalic Anhydride of the highest purity has been produced by us in commercial quantities for over 9 years and this pure Phthalic Anhydride is well-known to the trade as SELDEN BRAND. Its form is the natural long needle crystal which dissolves and melts much more rapidly than in any other form.

We pack this material in new slack barrels containing 150-lb. net weight of Phthalic Anhydride and these packages are so constructed that their use for re-shipment is a well established fact among our customers.

Our service on Phthalic Anhydride is unexcelled and we are in position to make prompt shipment in carload lots.

Your inquiries will have our prompt attention and we will be pleased to furnish quotations and samples at your request.

THE SELDEN COMPANY

Pittsburgh, Pa., U. S. A.

Para-Dichlorbenzene
Sodium Acetate

Chemicals

Sodium Bicarbonate
Zinc Metal

Para Dichlorobenzene, 150 lb bbls wks	lb	.17	.20
Paraldehyde 110-55 gal drs	lb	.26	.28
Para-Cymena Ref d. 110 gal drs	gal	2.25	2.50
Para-Nitroacetanilid 300 lb bbls	lb	.50	.55
PARA-NITROANILINE, 300 lb bbls wks singls bbls	lb.	.48	.49
Para-Nitrochlorobenzene, 1,200 lb drs wks	lb	...	.32
Para-Nitro-ortho Toluidine, 300 lb bbls	lb	2.75	2.85
Para-Nitrophenol, 185 lb bbls	lb	.50	.55
Para-Nitrosodimethylaniline, 120 lb bbls	lb	.92	.94
Para- Nitro Toluene, 350 lb bbls	lb.	...	.30
Para-Phenylenediamine 350 lb bbls	lb.	1.15	1.20
Para-Toluene-Sulfonamide, 175 lb bbls	lb	.40	.41
Para-Toluene-Sulfonchloride, 410 lb bbls wks	lb	.20	.22
Para-Toluidine,3 50 lb bbls wks	lb.	.40	.45
PARIS GREEN, Arsenic Basis, 500 lb kegs	lb	.19	.20
Kegs, 100 lbs.	lb	.21	.22
PETROLATUM, green 300lb bbls	lb	.02½	.03
Phenol Small drums 250—100lb	lb.	.17	.20
Phenyl-Alpha-Naphthylamine 100 lb kegs	lb	...	1.35
Phosphorus, red 110 lb cs	lb	.60	.65
Yellow 110 lb cs wks	lb	...	.32
Phosphorous-Oxychloride 175 lb cyl	lb	.35	.40
Phosphorous Sesquisulfide 100 lb cases	lb	...	.46
Phthalic, Anyhdride, 100 lb bbls wks	lb	.18	.20
Potash, Caustic, Imp., c-l, cks	lb	...	.07½
Domestic, wks	lb	...	.07⅛
POTASH SALTS, rough			
Pot. Muriate basis 80% bgs	ton	...	36.40
Pot. Sulfate, basis 90% bgs	ton	...	47.30
Pot. & Mag. Sulfate basis 48% bags	ton	...	27.00
Manure Salts basis 30% bulk	ton	...	18.75
Manure Salts basis 20% bulk	ton	...	12.40
Kainit, basis, 12.4% bulk	ton	...	9.00
Kainit, basis, 14% bulk tons 10%	ton	...	9.50
POTASSIUM Bicarb USP 320 lb bbls	lb	.09	.09⅛
Bichromate, crys., 725 lb csks	lb	.08¼	.08¾
Powd., 725 csks wks	lb	.12	.12½
Binoxiate, 300 lb bbls	lb	.16	.17
Bisulfate, 100 lb kegs	lb	...	.30
CARBONATE, 80-85% calc. 800 lb cks	lb	.05⅝	.05¾
Chlorate cryst powd 112 lb kegs wks	lb	.08½	.09
Imp., 112 lb NY	lb	.08¼	.08½
Chloride, crys., bbls	lb	.05⅝	.05½
Chromate, kegs	lb	.27	.28
Cyanide 110 lb cases	lb	.55	.57½
Metabisulfite, 300 lb bbls	lb	.11½	.12
Oxalate, neutral, 225 bbls	lb	.16	.17
PERMANGAN, USP, crys., 500 lb & 100 lb drs wks	lb	.15¼	.15½
Prussiate red, 112 lb kegs	lb	.37½	.38
Prussiate, yellow 500 lb casks	lb	.18	.18½
Tartrate, neutral 100 lb kegs	lb	...	.51
Titanium Oxalate, 200 lb bbls	lb	...	.25
Pyridine, 50 gal drs	gal	1.50	1.75
R SALT, 250 bbls wks	lb	.45	.46
Salt, Common, see Sodium Chloride			
Salt Cake 94-96% c-l wks	ton	19.00	20.00
White 87% wks	ton	15.00	17.00
SALTPETRE, Double refined Granular, 450-500 lb bbls	lb	.06½	.06¼
Satin White, 500 lb bbls	lb	...	.01½
SILICA Crude, bulk, mines	ton	6.00	7.00
Refined, floated bags	ton	15.00	30.00
Air floated bags	ton	32.00	50.00
Extra, floated, bags	ton	55.00	65.00
SODA ASH, 58% light bags delivered NY 100 lb		2.14	2.29
Contract, c-l bgs wks 100 lb		...	1.32½
58% densee-l bgs wks 100 lb		...	1.32½
CAUSTIC, 76% solid drums delv'd NY 100 lb		3.76	3.91
Ground & Flake 76% drums del., NY	100 lb	4.16	4.21
Contract c-l wks	100 lb	...	3.00
SODIUM ACETATE, crys 450 lb bbls wks	lb	.04½	.05

Bleaching Powder — Contracts extending over the next twelve-month period are being closed without hesitation as contract prices are the same as those already in force.

Chlorine — Withdrawals on existing contracts and interest in future business are the features of this market.

Copper Sulfate — Conditions in this market are quiet but do not indicate any weakness in price as this is a seasonal dullness.

Glycerin — The market has again weakened and sales of dynamite have been made lower than 18c@19c lb. Saponification is placed at 12½c@13c lb. and soap lye is offered freely as low as 11½c@12c lb. Chemically pure is down to 22c @22½c lb. and the market is so weak that even these prices may be shaded.

Lead — Lead derivatives are unchanged and moving in fair quantities. Lead metal is quoted at $6.25 100 lbs. and seemingly firm.

Mercury — The mercury market has again advanced and is now placed at $129.00@$132.00 flask and moving in heavy quantity. The market is firm both here and abroad and these prices are expected to be maintained for some time.

Nitrobenzene — Is in very good movement at this time with prices firm at 10¼c@10½c lb. A natural increase in activity has been seen since the recent advance in price.

Ortho-Toluidine — This market is unchanged in price but an advance above 29c@31c lb. would not be surprising in view of the advance in quantity prices and the continued strength of the market.

Para-Nitroaniline — The market appears nervous at 48c@49c lb. with lower quotations for contract. There are no new developments this week and competition is still sharp.

Paris Green — The 1928 schedule for this item has not yet been announced but is expected to be released shortly, meanwhile, the market is practically stationary.

Phenol — Business is proceeding quietly, with no weakness heard or any deviation from the prices of 17c @20c lb.

Sodium Nitrate — There is very little life displayed in the market either here or in Chile. Prices are unchanged, at $2.40 ton in 100 ton lots and $2.45 ton in lesser quantities.

OILS AND FATS

Chinawood Oil — Spot remains

SODIUM (Cont.) Bicarbonate 400 lb bbls NY 100 lb		...	2.41
Bichromate, 500 lb casks wks	lb	.06¼	.06¾
Bisulfite, 500 lb bbls wks	lb	...	.04
Carbonate 350 lb bbls NY 100 lb		1.30	1.35
Chloride, tech	ton	12.00	13.00
Chlorate, 112 lb kgs wks	lb	.06½	.06¾
Cyanide 96-98% 100 & 250 lb drums wks	lb	...	.20
Fluoride, 300 lb bbls wks	lb	.08¾	.09
Hypochlorate Soln 100 lb cbys	lb	...	.05
Hydrosulfite 200 lb bbls fob wks	lb	.22	.24
HYPOSULFITE, tech., pea crys 375 lb bbls., wks 100 lb		2.65	3.05
Regular crys., bbls wks 100 lb		2.40	2.65
Metanilate, 150 lb bbls	lb.	...	.45
Naphthlonate, 300 lb bbls	lb	.55	.57
Nitrate crude, 95% 200 lb bgs c-l NY	100 lb.	...	2.45
Dec. Shipment	100 lb.	...	2.45
Nitrate, 500 lb bbls spot mkrs	lb	.08	.08½
Orthro-Chloro-Toluene Sulfonate 175 lb bbls wks	lb	.25	.27
Oxalate, neutral, 100 lb kegs	lb	.20	.23
Perborate, 275 lb bbls	lb	.21	.22
Phosphate, di-sodium tech 550 lb Bbls	100 lb	3.25	3.55
Para-Toluene Sulfonate 175 lb bbls	lb	.08	.09
Tri-sodium techc-lbbls 100 lb		...	3.90
PRUSSIATE, yellow 350 lb bbls wks	lb	.12	.12½
Pyrophosphate 100 lb kegs	lb	.13⅛	.14
Silicate, 40° turbid, 55 gal drums wks	100 lb	.85	1.10
40° clear drs wks 100	lb	1.20	1.45
Silicofluoride 450 lb bbls NY	lb	.04½	.05
Stannate, 100 lb drums	lb	.48½	.49
Sulfanilate 400 lb bbls	lb.	.16	.18
Sulfate Anhydrous 550 lb bbls c-l wks	lb	.02¼	.02¾
Sulfide, 60% solid, 650 lb drs lc-l wks	lb	.03½	.04
30% crys 440 lb bbls wks	lb	.02½	.02¾
Sulfite, cryst 400 lb bbls wks	lb	.03¼	.03½
SOLVENT NAPHTHA, 110 gal drs wks	gal.	.35	.40
STRONTIUM, Carbonate, 600 lb bbls wks	lb	.07¼	.07½
Nitrate, 600 lb bbls NY	lb.	.08¾	.09
SULPHUR Crude, fob mines	ton	18.00	19.00
Brimstone Broken Rock 250 lb bgs c-l	100 lb	...	2.05
Roll, 1 c-l bbls NY 100 lb		2.65	2.85
Flour, Heavy bgs c-l	100 lb	...	2.50
For Dusting c-l 99½% 100 lb bags NY	100 lb	...	2.40
Flowers 100% 155 lb bbls NY c-l	100 lb	...	3.45
Sulfur Chloride, red, 700 lb drs wks	lb	.05	.05½
Yellow, 700 lb drs wks	lb	.03¼	.04½
Sulfur Dioxide, 150 lb cyl	lb	.08	.08½
Extra Dry, 100 lb cyl	lb	.17	.19
Sulfuryl Chloride, 600 lb drs	lb	.65	.70
Tar Coke Oven, Tks., wks	gal	.07	.08
Tetralene, 50gal drs wks	lb	...	.20
Thiocarbanilid, 170 lb bbls	lb	.22	.24
TIN, metal Strait, NY	lb.	...	.58
Bichloride, 50% sol'n 100 lb bbls wks	lb.	...	.17½
Crystals, 500 lb bbls wks	lb.	...	.41½
Oxide, 300 lb bbls wks	lb.	...	.75
Tetrachloride, 100 lb drs wks	lb.	...	.35½
Titanium Oxide 200 lb bbls	lb	...	.40
Pigment, bbls wks	lb	.13½	.14
Tolidine, 350 lb bbls	lb	.90	.94
Toluene, 8,000 gal tnk cars wks	gal	...	.35
110 gal drs wks	gal	...	.40
Toluidine, Mixed, 900 lb drs wks	lb	.31	.32
Toner Lithol Red bbls	lb	.85	.90
Para Red bbls	lb	.75	.80
Toluidine	lb	1.75	1.80
Triacetin, 50gal drs wks	gal	3.60	3.90
Triphenylguanidine	lb	.69	.73
Urea Pure, 112 lb cases	lb	.18	.20
Vermilion English kegs	lb.	...	1.95
XYLENE, 10° tanks wks	gal.	...	.32
Com'l tanks wks	gal.	.30	.32
Xylidine crude	lb	...	.35
ZINC METAL, high grade slabs c-l NY	100 lb.	...	6.40
ZINC Amm Chloride, pwd 400 lb bbls.	lb.	...	.06¼
Carb. tech., bbls NY	lb.	.09½	.10
Chloride, fused 600 lb drs wks	lb	...	.06
Granulated, 500 lb bbls wks	lb	.06¼	.06½
Solution 50% tnks wks 100 lb		...	3.00
Cyanide, 100 lb drs	lb.	.40	.41
Dust, 500 lb bbls c-l wks	lb.	...	.09
Oxide, Amer., bags wks	lb.	.07¾	.07⅞
French, 300 lb bbls wks	lb.	.10¾	.12¾
Sulfate, 400 lb bbls wks	lb.	.03½	.03¾
Sulfide, 500 lb bbls	lb	.30	.32
Sulfocarbolate, 100 lb kegs	lb	.29	.30

NEVER satisfied with the present, striving always for betterment of the future of the industry is one thought and action that has maintained Solvay leadership since 1881.

You can rely on Solvay for Alkali.

Solvay 58% Soda Ash
Dense—Light
Solvay Fluf
(Trade Mark Registered)
(Extra Light Soda Ash)
Solvay 76% Caustic Soda
Solid—Flake—Ground
Solvay Liquid Caustic Soda
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Solvay Snowflake Crystals
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Solvay Laundry Soda
Solvay Cleansing Soda
Solvay Tanners Alkali
Solvay Tanners Soda
Solvay Calcium Chloride
Solvay Caustic Potash Liquor 45%
Solvay Sodium Nitrite
Solvay Ammonium Chloride
Solvay Ammonium Bicarbonate
Solvay Paradichlorobenzene
Solvay Benzaldehyde
Solvay Benzyl Chloride
Solvay Liquid Chlorine

Solvay Sales Corporation

Alkalies and Chemical Products
Manufactured by The Solvay Process Company

40 Rector Street **New York**

Boston Syracuse Chicago Indianapolis Cleveland
Cincinnati Pittsburgh Detroit Philadelphia
Kansas City St. Louis
Atlanta

Oils & Fats

Castor, No. 1, 400 lb bbls	lb.	.13	.13½
No. 3	lb.	.12½	.13
Blown, 400 lb bbls	lb.	...	.17
China Wood bbls spot NY	lb.	.15¼	.15½
Tanks, Spot NY	lb.	...	nom.
Coast tanks—Nov.	lb.	.13	.13¼
Coconut Ceylon 375 lb bbls NY	lb.	.09¾	.10
8,000 gal tanks NY	lb.	.08⅝	.09
Cochin, 375 lb bbls NY	lb.	.10¼	.10½
Tanks, NY	lb.	...	.09½
Manila bbls NY	lb.	.09¾	.10
Tanks, NY	lb.	.08⅞	.09
Tanks, Pacific Coast	lb.	.08½	.08¾
Edible bbls NY	lb	.12	.12¼
Cod Newfoundland, 50gal bbls	gal	.63	.64
Tanks, NY	gal	.59	.61
Cod Liver, see Cod Liver Oil under Chemicals			
Copra, bags	lb	.06	.06¼
Corn, ref. 375 lb bbls NY	lb.	...	.10½
Tanks	lb.	.11	.11½
Crude tanks mills	lb.	.09¼	.09½
Bbls. NY	lb.	...	.10¾
Cottonseed Crude mill	lb.	...	.09¼
PSY 100 bbls spot	lb.	...	.10¾
Oct-Jan	lb.	...	.10¾
White, 100 bbls lots NY	lb.	...	.11½
Degras, Amer., 50gal bbls NY	lb.	.04¼	.04½
English light bbls NY	lb.	.05¼	.05½
Brown, bbls NY	lb.	.04⅝	.04¾
Greases choice white bbls NY	lb.	.10¼	.10⅝
Yellow	lb.	...	.07¾
Brown	lb.	..	.07⅝
LARD OIL, edible prime	lb.	...	.16¾
Off prime bbls	lb.	...	.13¾
Extra bbls	lb.	...	.12¾
Extra No. 1 bbls	lb.	...	.12
LINSEED, raw c-l bbls spot	lb.	...	9.6
Five bbls raw	lb.	...	10.4
Tanks raw	lb.	...	9.0
Menhaden tanks Balt	gal.	...	.46
Light pressed, bbls NY	gal	.63	.64
Yellow pressed, bbls NY	gal	.66	.67
Blown bbls NY	lb	...	.90
Extra bleached bbls NY	gal	.67	.68
Mineral Oil, white, 50 gal bbls	gal	.80	.90
Russian	gal	.95	1.00
Neatsfoot 20 deg. ct., bbls NY	lb.	...	.18¼
Pure bbls NY	lb.	...	.16¼
CP bbls NY	lb.	...	.18¼
Extra bbls NY	lb.	...	.13¼
Oleo Oil, No. 1 bbls NY	lb.	...	.18½
No. 2 bbls NY	lb.	...	.17
No. 3 bbls NY	lb.	...	.14
OLIVE, denatured bbls NY	gal.	1.60	1.70
Edible, bbls NY	gal	...	2.15
Foots bbls NY	lb.	.09¾	.10
Palm Lagos, 1,500 lb casks	lb.	...	.08
Niger casks	lb.	.07¼	.07⅝
Palm Kernel Casks	lb.	.09¼	.09¼
Peanut refined bbls NY	lb.	.15	.15½
Crude, bbls NY	lb	.12	.12¼
Perilla, bbls NY	lb.	.14	.14½
Tanks Coast	lb.	...	.11¼
Poppyseed bbls NY	gal	1.70	1.75
Rapeseed bbls NY Japanese	gal.	.83	.85
English	gal.	.88	.90
Blown bbls NY	gal.	1.02	1.04
Red Oil, distilled bbls	lb	.09	.09½
Tanks	lb.	.09½	.10½
Tanks	lb	...	.08½
Salmon, 8,000 gal tks Coast	gal	.50	nom.
Sardine, Tanks Pac 1/6 c Coast	gal	...	.45
Sesame edible yellow bbls	lb	.12¾	.13½
White	lb.	.14	.15
Sod Oil, bbls NY	gal	...	.40
SOYA BEAN, crude tks Pac Cst.	lb.	...	.09¾
Crude, tks NY	lb.	...	nom.
Crude, bbls NY	lb	.12	.12¼
Refined bbls NY	lb	...	.13

unchanged at 15¼c@15½c lb. with a fairly steady demand. The tank car price on the Coast has advanced no further since last week when it was quoted at 13c@13¼c lb. in a firm market.

Coconut Oil — Although there have been no price changes, a firmer feeling characterizes this market, due to reported shortage of supplies on the Coast and small stocks of Copra at the Islands. Spot prices on Ceylon, both in barrels and tanks, remain unchanged, the former being quoted at 9¾c@10c lb. and the latter at 8⅝c@9c lb. The same holds true for Cochin and Manila, spot on the former being at 10¼c@10½c lb. in barrels and 9½c lb. in tanks, while the latter is at 9¾c@10c lb. in barrels and 8⅞@9c lb. in tanks. Manila in tanks at the Coast is 8½c@8¾c lb.

Corn Oil — Spot price on barrels of refined oil has declined ¼c lb. while tank car price remains unchanged. Both spot and mill price of crude remain unchanged.

Cottonseed Oil — Very firm conditions exist in this market with all grades registering a rise of ¼c lb. On last Saturday, spot was at 10¾c lb., while crude oil at the mills was at 9¼c lb. **Quotations on futures** are correspondingly high, January prices being quoted at 10.90c lb. and February at 10.95c lb.

Greases — All grades show a further advance. Choice white is now at 10¼c@10⅜c lb., yellow at 7¾c lb., and brown at 7⅜c lb.

Linseed Oil — The market has steadied a bit and prices remain unchanged since last week. Spot price on raw oil in carlots is at 9.6c lb. while five barrel lots in warehouses are named at 10.4c lb. Raw oil in tanks is quoted at 9c lb.

Neatsfoot Oil — Has declined ½c lb. Twenty degree cold-pressed is now at 18¼c lb., as is C. P. Pure is at 16¼c lb., while extra is quoted at 13¼c lb.

Olive Oil — Foots continue to decline, now being quoted at 9¾c@10c lb. This is the only feature of this market as both edible and denatured oil remain unchanged.

Palm Oil — Both grades continue unchanged with a firmer tendency in the market. Lagos is quoted at 8c lb., and Niger at 7¼c@7⅜c lb.

Soya Bean Oil — Continues to advance as scarceness of replacements becomes more evident. Tanks at the Coast are now quoted at 9¾c lb., while prices in tanks at New York have become nominal.

Sperm 38° ct., blchd, bbls NY	gal	.84	.85
45° cold test blchd bbls NY	gal.	.79	.80
STEARIC ACID			
Double pressed, bags dist.	lb	.11¼	.11½
Double pressed, bgs saponi⅛ed	lb	.11½	.12
Carlots	lb.	...	.11
Triple pressed bgs dist	lb.	.13¼	.13½
Carlots	lb	...	.13
Stearine Oleo bbls	lb.	...	.12
Tallow edible tierces	lb.	...	.11½
City, Extra loose	lb.	...	.09
Tallow Oil, acidless tks NY	lb.	...	.11
Bbls c-1 NY	lb.	...	.12¼
Whale, nat winter bbls NY	gal	.76	.78
Blchd, winter bbls NY	gal	.78	.80
Extra blchd bbls NY	gal	.80	.82
Turkey Red, Oil, single bbls	lb	.11	.12
Double	lb	.14	.16

Indusirial Raw Materials

Albumen, egg edible	lb.	.83	.87
Tech., 100 lb drs	lb.	.78	.83
Blood, 225 bbls	lb	.45	.55
Vegetable edible	lb.	.60	.65
Technical	lb	.50	.55
Annatto, fine	lb.	.41	.48
Archil., double 600 bbls	lb.	...	.12
Triple, 600 lb bbls	lb.	.14	.15
Con, 600 lb bbls	lb.	.16	.18
Asbestine c-1 wks	ton	...	14.75
Bees Wax, white cases	lb.	.56	.58
Yellow, refined cases	lb.	.41	.42
Crude, bags	lb.	.37	.38
Blood dried fob NY	unit	...	4.75
Chicago	unit	...	4.90
S Am Shipment	unit	...	4.75
Bone Raw Chicago	ton	29.00	30.00
Bone Meal, 3 & 50 imp	ton	30.00	37.00
Bone Ash 100 lb kegs	lb	.06	.07
Black 200 lb bbls	lb	...	.08¼
Candelilla Wax, bags	lb.	.27	.28
Carnauba Wax Flor bags	lb	.50	nom.
No. 1 Yellow, bags	lb.	.60	.62
No. 2, regular bags	lb.	.55	.56
No. 2, N. Country bags	lb.	.36	.38
CHARCOAL			
Hardwood, lump, bulk wks	bu	.18	.19
Wood, powd., 100 lb bbls	lb	.04	.05
Willow, powd 100 lb wks bbls	lb	.06	.06¼
Chestnut clarified 25% tks wks	lb	.02	.02¼
Bbls, wks	lb	.03	.03¼
Powd., 60% 100 lb bags wks	lb	.05½	.05¾
Decolorized bags wks	lb	.06½	.07
Cudbear, English	lb	.16	.17
Cutch Rangoon, 100 lb bales	lb.	...	.18½
Borneo solid 100 lb bales	lb.	.06	.07
Cyanamide, bulk, c-l wks Amm unit		...	1.67½
Dextrin, white corn 140 lb bags			
c-l	100 lb	...	3.72
Canary	100 lb	...	3.77
Potato, white 220 lb bags 1c-1	lb	...	.08½
Yellow, 220 lb bags	lb	...	.08½
Tapioca, 200 bags 1c l	lb	.08	.08¼
Divi Divi Extrat	lb	.04	nom.
Pods, bags ship	ton	48.00	50.00
Egg Yolk, 200 lb cs	lb.	.72	.75
Ester Gums Dark, 280 lb bbls	lb.	.13¾	.14
Light 280 bbls	lb.	.14	.14¼
Fish Scrap, dried wks	unit	...	5.60
Acid Bulk 7 & 3½ Deliv			
Norfolk & Balt basis	unit	...	nom.
Flavine Lemon 55 lb cs	lb	1.10	1.15
Orange 70lb cs	lb.	1.10	1.15
Fossil Flour	lb	.02½	.04
Fustic, solid 50 lb boxes	lb	.20	.23
Crystals, 100 boxes	lb	.20	.22
Liquid 51° 600 lb bbls	lb	.09	.10
Fustic, sticks	ton	30.00	32.00
Chips	lb	.04	.05
Gall extract	lb.	.20	.21
Gambier 25% liq., 450 lb bbls	lb	.12	14
Common 200 lb cases	lb.	.08	.09
Singapore, cubes, 150 lb bags	lb.	.11	.12
Gelatin Technical 100 lb cs	lb	.45	.50
bags c-1 NY	100 lb	3.14	3.24
Glucose (Grape Sugar) dry 70°			
80° bags c-1NY	100 lb	3.24	3.34
Tanners' Spcl 100 bgs	100 lb	...	3.14
GLUE, pure white bbls	lb	.22	.26
Medium white, bbls	lb	.20	.24

"COLUMBIA BRAND"

Caustic Soda

SOLID—FLAKE
GROUND—LIQUID

Soda Ash

LIGHT
DENSE

Columbia Chemical Division
Pittsburgh Plate Glass Co., Barberton, Ohio

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Small Crystals

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ATLANTA GEORGIA

Gums
Oak Bark

Industrial Raw Materials

Osage Orange
Whiting

GUM, Accroides, Red, coarse and fine, 140-150 lb bags	lb	.03¾	.04½
Powdered, 150 lb bgs	lb	.06	.06½
Accroides, Yel. 150-200 lb bgs	lb	.18	.20
Animi (Zanzibar) Bean and pea 250 lb cases	lb.	.35	.40
Glassy, 250 lb cases	lb.	.50	.55
Asphaltum, Baradoes, Manjak 200 lb bags	lb	.09	.12
Egyptian, 200 lb cases	lb	.15	.17
Gilsonite selects 150 lb bgs	ton	55.00	60.00
Benzoin, Sumatra, Tech., 120 lb cases	lb	.30	.32
Copal, Congo, 112 lb bags Water White,	lb	.35	.36
Light Amber,	lb	.12½	.14
Dark Amber,	lb	.08¾	.09
Clean Opaque	lb	.14	.15
Copal, East Indian 224 lb cases 180 lb bags— Pale, E. I. Bold	lb	.17	.17½
Pale, E. I. Chips	lb	.07½	.08
180 lb bags— Copal, Manila, 180-190 lb Baskets— Pale Bold, Loba A,	lb	.16	.16½
Pale Bold, Nubs, Loba B	lb	.15	.15½
Pale, Bold, Loba C	lb	.13	.13½
Pale Nubs, P. N.	lb	.12	.12½
Pale Bold, 224 lb cases	lb	.16	.18
Copal, Pontinak, 24 lb cases— Pale, Bold genuine No. 1	lb	.25	.25½
Pale, genuine spot chips	lb	.13	.14¼
Damar Batavia standard 136 lb cases	lb.	.24½	.25
Batavia E Seeds13 6 lb cs	lb.	.18	.18½
Batavia F Splinters 136 lb Cases and bags	lb	.14	.14⅛
Batavia, Dust, 160 lb bags	lb	.10½	.11⅛
Singapore No. 1 224 lb cs	lb.	.32½	.33
Singapore No. 2, 224 lb cs	lb	.22½	.22½
Singapore No. 3, 180 lb bags	lb.	.14	.15
Elemi, No. 1, 80-85 lb cs	lb.	.14	.15
No. 2, 80-85 lb cases	lb.	.13	.14
No. 3, 80-85 lb cases	lb.	.12	.13
Kauri No. 1, 224-226 lb cs	lb	.60	.61
No. 2, fair pale 224-226 lb cases	lb	.38	.40
Bush Chips 224-226 lb cases	lb.	.38	.40
Pale Chips 224-226 lb cases	lb	.24½	26
Brown Chips 180-200 lb bgs	lb	.10	.12
Sandarac Prime quality 220 lb bags and 300 lb casks	lb	.25	.26
Graphite crude 220 lb bags	ton	15.00	35.00
Flake, 500 lb bbls	lb	.05	.09
HEMATINE, Paste, 500 lb bbls	lb	.09	.12
Crystals, 400 lb bbls	lb	.12	.20
Hemlock, 25% 600 lb bbls wks	lb	.03½	.03¾
Bark	ton	...	16.00
Hypernic, 51° 600 lb bbls	lb	.12	.15
Indigo Madras bbls	lb	1.28	1.30
20% paste drums	lb	.14	.15
Solid powd	lb	.07½	.08
Japan Wax 224 lb cs	lb.	.17	.18
KIESELGUHR, 95 lb bgs NY	ton	60.00	70.00
Larch 25% 600 lb bbls wks	lb	.03¾	.04
Powd. 100 lb bags wks	lb	.08	.09
Logwood 51° 600 lb bbls	lb	.03¾	.03½
Lower grades	lb	.07½	.08
Solid, 50 lb boxes	lb	.12	.15
LOGWOOD sticks	ton	26.00	27.00
Chips 150 lb bags	lb	.03	.03½
Madder, Dutch	lb	...	.30
Mangrove 55% 400 lb bbls	lb	.03½	nom.
Marble Flour bulk	ton	10.00	12.00
Mangrove Bark, African	ton	39.00	40.00
Montan Wax, crude bags	lb	.06½	.07
Bleached bags	lb	.24	.27
Myrobalans 25% liquid bbls	lb	.04	.04½
50% solid 50 lb boxes	lb	.08	.08½
Myrobalans, bags, J1	ton	...	43.50
R2	ton	34.00	35.00
J2	ton	35.00	36.00
Nitrogenous Material bulk	unit	...	3.35
NUTGALLS, Chinese, bags	lb	.17	.18
Aleppy bags	lb	.25	nom.
Powd. bags	lb	.22	.24
Oak bark, whole	ton	20.00	23.00
Ground	ton	45.00	50.00
Oak, tanks wks	lb	...	.03½
23-25% liq. 00 lb bbls wks	lb	.04	.04½
Osage Orange 51 deg. liquid	lb.	.07	.07½
Powd. 100 lb bags	lb.	.14½	.15
Crystals	lb.	.16	.17
Paracouarone, 230 lb drums	lb.	.12	.15
Paraffinn, ref'd 200 lb drums	lb.	.12	.15
Paraffin, ref'd 200 lb cs slabs 123-127 deg. M.P.	lb.	.06½	.06¾
128-132 deg. M.P.	lb.	.07½	.07¾
135-137 deg. M.P.	lb.	.08	.08½
138-140 deg. M.P.	lb.	.08¾	.10
Phosphate Acid, 16% Bulk wks	ton	...	9.00
Phosphate Rock, f.o.b., mines Florida Pebble 68%	ton	3.00	3.15
Florida Pebble 70%	ton	3.50	3.65
Florida Pebble 72%	ton	4.00	4.15
Florida Pebble, basis 75-74%	ton	...	5.00
Florida Pebble, 75%	ton	...	5.75
Florida Pebble, basis 77-76%	ton	...	6.25
Tenessee, 72%	ton	...	5.00
Pine Oil, stm., dist, bbls	gal.	...	.70
Destructive dist.	lb.	.63	.64
Prime	bbl.	8.00	10.60
Plaster Paris, tech., 250 lb bbls	bbl.	...	3.30
Pumice Stone, lump 250 lb bbls	lb.	.04½	.06
Lump, bags	lb.	.04	.05
Powdered, 350 lb bbls	lb.	.02½	.03
QUEBRACHO, 35% liquid tks	lb.	.03	.03½
450 lb bbls c-l	lb.	.03½	.04
35% bleaching, 450 lb bbls	lb.	.04	.05
Solid 63% 100 lb balescif	lb.	.05	.05½
Clarified, 64% bales	lb.	...	.05
Quercitron, 51 deg. 450 lb bbls	lb.	.06½	.07
Solid, 100lb boxes	lb.	.10	.13
Quercitron, bark, rough	ton	...	14.00
Ground	ton	34.00	35.00

Rosins (Solid in 600 lb bbls gross for net)

B	8.50	I	8.55
D	8.50	K	8.65
E	8.50	M	8.80
F	8.50	N	9.15
G	8.50	WG	10.50
H	8.50	WW	12.00

(Sold in 600 lb bbls net, quotations based on a unit of 280 lb)

Rosin Oil first run 50 gal bbls	gal	...	.57
Second run bbls	gal.	...	.62
Rotten Stone lump imp bbls	lb.	.07	.08
Lump selected, bbls	lb.	.09	.12
Powdered, bbls	lb.	.02	.05
Domestic bags mines	lb.	24.00	30.00
Sage Flour 150 lb bags	lb.	.04½	.05
Shellac, T. N., bags	lb.	.48	.49
Superfine bags	lb.	.52	.53
Garnet, bags	lb.	.49	.50
Bone dry, bbls	lb.	.55	.58
Spruce, 25% liquid tanks, wks	lb.	.01	.01½
bbls	lb.	...	.01⅝
Powd, 50% 100 lb bags wks	lb.	.02	.02¼
Starch, rice, 200 lb	bbls.	.09½	.10
Com Powd. 140 bgs. c-l	100 lb.	...	3.07
Pearl, 140 lb bags	100 lb.	...	2.97
Potato domestic, 200 lb bgsc-l	lb.	.06	.06½
Imported bags duty paid	lb.	.06¼	.06½
Wheat, dom., thick bags	lb.	.06½	.07
Thin, bags	lb.	.09½	.10
Sol. Potato	lb.	.08	.08½
Sumac, extract, liq 450 lb bbls	lb.	.05	.06
CP., 450 lb bbls	lb.	...	.10½
Stainless, 600 lb bbls	lb.	.11	.11½
Sumac, Sicily leaves 100 lb bags	ton	130.00	nom.
Ground shipment	ton	...	72.00
Virginia, 150 lb bags	ton	55.00	60.00
TALC, Italian 220 lb bags NY	ton	40.00	50.00
Refined, white bags	ton	50.00	55.00
French, 220 lb bgs NY	ton	30.00	35.00
Refined, white bags	ton	38.00	45.00
Dom., crude 100 lb bags NY	ton	12.00	15.00
Refined 100 lb bags NY	ton	16.00	18.00
Tankage, ground NY	unit	...	4.85
High grade fob. Chicago	unit	3.75 &	.10
So. Am. cif.	unit	4.75 &	.10
Tapioca Flour, high grade bgs	lb.	.04½	.05
Medium grade, bgs	lb	.03¾	.04
Tar, Klin-burnt	bbl.	...	13.50
Retort bbls	bbl.	13.50	15.50
Tripoli, 500 lb. bbls	100 lb.	2.00	3.00
Turpentine Spiritsbbls	gal.	...	.56
Wood steam Dist. bbls	gal.	.46	.47
Valonia Cups 30-31% tan	ton	...	nom
Beard, 42% ton bags	ton	...	nom
Mixture bark bags	ton	...	nom
Wattle Bark, bgs	ton	59.00	60.00
Extract 55% dble bgs ex-dock	lb.	...	.05¾
Whiting 200 lb bags c-l wks	100 lb.	...	1.35
Alba bags NY c-l	ton	...	13.00
Gilders, bags NY c-l	100 lb.	...	1.85

Bees Wax—Prices are unchanged at 56c@58c lb. for white. Yellow is unchanged at 41c@42c lb. but some sellers have been able to sell as high as 45c lb. and predict an advance in the general market. Crude is quiet at 37c@39c lb.

Blood — Prices for dried blood failed to change over the week, the stock feeding interests are still absorbing the major part of the available supply and prices are held firm at $4.75@$4.80 unit in New York. Chicago and South American are in an unchanged position.

Cutch — Rangoon cutch is lower due to lower purchasing prices in the primary market and is now quoted at 15c lb. Solid material is quiet at 6c@7c lb. Tablets are dull and very little inquiry for them is heard.

Divi-Divi — This market is dull and featureless, prices are quoted at $48.00@$50.00 ton but may be shaded with any sizable business. Shipments from the primary market are not very heavy.

Fish Scrap —The market remains tight at $5.60 and 10c unit with supplies scarce and very little hope for lower prices for the remainder of the season. Fishing is still going on but conditions remain the same and indicate the sustenance of high prices.

Flavine — Orange and lemon flavine are both priced at $1.10@$1.15 lb. but remain quiet and without feature.

Gums — The consistent dullness in the market for varnish gums has failed to create any decline in prices other than fractional reductions when affected by competition.

Rosins — Price suffered sharp declines in the New York market in reflection of descending values in the South. Current prices are: B,D,E,F,G,H, $8.50; I, $8.55; K, $8.60; M, $8.75; N, $9.15; WG, $10.-50; WW, $12.00.

Starch — No change has been seen in the prices, buying is active, and the only item liable to any immediate change is potato which is not too plentiful on spot.

Tankage —Sellers are quoting the same high prices with small quantities to offer. New York and South American prices are $4.75 & 10c unit and Chicago prices are $3.75 & 10c unit.

Valonia — The market is nominally quoted only as there are no offerings from the primary market.

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Import Manifests

Heavy Chemicals and Other Industrial Raw Materials.

IMPORTS AT NEW YORK
November 1 to 7

ACENAPTHENE—60 cks Ciba Co., Havre
ACIDS—Coal Tar, 12 drs., Merck & Co., Hull; **Cresylic,** 126 drs., W. A. Foster & Co., Antwerp; 28 drs., Tar Acid Refining Co., Liverpool; 29 drs., Caldwell & Co., Manchester; **Formic,** 147 carboys, American Cyanimid Co., Hamburg; 80 drs. C. Rudloff, Hamburg; **Tannic,** 10 brls., E. M. Sergeant Co., Hamburg
ALCOHOL—Denatured, 490 drs., C. Esteva, Arecibo
AMMONIUM SALTS—Chloride, 71 brls., Monmouth Chem Corp., Hamburg
ANTIMONY—22 cs., C. Hardy Inc., Hamburg
ARSENIC—Metallic, 180 drs Ore & Chemical Corp., Hamburg; **Red,** 50 drs., Pfaltz & Bauer, Hamburg; 50 drs., Innis Speiden & Co., Hamburg
BARKS—472 bls., American Express Co., Hamburg; 263 bls., Meht & Daniel, Hamburg; **Mangrove,** 1300 bgs., Procter & Ellison Co., Beira
BARYTES—500 bgs., A. Klipstein & Co., Hamburg
BONE DUST—555 bgs., H. J. Baker & Bros., Hamburg
CALCIUM—Chloride, 54 drs., Davies Turner Co., Hamburg
CARBON—Decolorizing, 2 cs., American Surgi Co., Hamburg
CASEIN—333 bgs., Atterbury Bros., Hamburg
CHALK—200 bgs., H. J. Baker & Bros., Bristol; 1000 bgs., Stanley Doggett, Antwerp; 500 bgs., Scott L. Libby Corp., Havre; 820 tons, J. W. Higman Co., Dunkirk; 50 bgs., S. B. Penick & Co., London; 339 bgs., Chaplain & Bibbo, Hamburg; 2 cs. ,Wagner & Adler, Havre
CHEMICALS—10 cs., G. Luecders & Co., Hamburg; 1 cse., Kachurin Drug Co., Hamburg; 3 cs., American Krueger & Toll Corp., Hamburg; 2 cs., Eimer & Amend ,Hamburg; 77 cks., Roessler & Hasslacher Chem Co., Bremen; 25 brls., Superfos Co., Hamburg; 44 cs., Hoffman La Roche Chem Co., Hamburg; 55 cs., Kidder Peabody Co., Hamburg; 206 drs., Roessler & Hasslacher Chem Co., Hamburg; 10 cs., Mallinckrodt Chemical Works, Hamburg; 24 drs R. W. Greeff & Co., Hamburg; 28 drs Pfaltz & Bauer, Hamburg; 42 cks., 1 cse., Jungmann & Co., Hamburg
CINCHONIDINE—Sulfate, 5 cs ,Lo Curto & Funk, Hamburg
CLAY—10 cks., J. Goebel & Co., Bremen
COAL TAR AOLAN—8 cs., H. A. Metz, Hamburg
COAL TAR DISTILLATES—7 drs Merck & Co., Hull
COLORS—14 brls., 2 cs., A. Hurst & Co., Hamburg; 11 cks., 2 cs., General Dyestuff Corp., Hamburg; 4 cks., L & R Organic Products Co., Hamburg; 74 cks., Ciba Co., Havre; 64 cks., Sandoz Chem Works, Havre; 6 cks., Carbic Color & Chem Works, Havre; 2 cs., J. Schwartz, Havre; **Bronze Powder,** 9 cs., Gallagher & Ascher, Hamburg; 4 cs., T. D. Downing & Co., Hamburg; 25 cs., A. C. Rempert Co., Hamburg; 4 cs., J. J. Shore Co., Bremen; 11 cs., B. F. Drakenfeld Co., Bremen; 19 cs., Baer Bros., Hamburg; 16 cs., L. Uhlfelder Co., Bremen; 15 cs., 1 brl., Hensel Bruckmann & Lorbacher, Bremen; 20 cs., T. Riessner, Bremen; **Earth,** 2 cs., B. F. Drakenfeld Co., Bremen
COPPER—Phosphide, 32 cs., Federated Metals Corp., Hamburg
CRESOL—Liquid, 28 drs., Tar Acid Refining Corp., Liverpool
EARTH—Bed, 40 bgs., 12 cks., C. J. Osborn, Bristol; 50 cks., 160 bgs., G. Z. Collins Co., Bristol
EPSOM SALTS—300 cks The Goldschmidt Corp., Bremen
EXTRACTS—33 cs., Pollack Weeks Co., Gothenburg; **Archil Liquor,** 5 cks., J. Campbell & Co., Liverpool
FERMOSOL—15 drs., Sandoz Chem Works, Havre
FULLERS EARTH—750 bgs., L. A. Salomon & Bro., London
GELATINE—10 cs., P. Putmann, Bremen; 9 cs., W. E. Miller, Havre
GLAUBER SALTS—117 cks., A. Hurst & Co., Hamburg
GLUE—200 bgs. National Gum & Mica Co., Bristol; 100 bgs. G. W. Hemmel, Hull; 270 bgs. Isaac & Co., Hamburg; 400 bls. Miller Co., Havre.
GLYCERINE—5 drs., Brown Bros., & Co., Antwerp.
GUMS—2 cs., S. B. Penick & Co., London. **Arabic,** 501 bgs. T. M. Duche & Sons, Port Sudan; 340 bgs., Thurston & Braidich, Port Sudan; 650 bgs., Barclays Bank, Port Sudan; 5 bgs., Peek & Velsor, Hamburg. **Tragacanth,** 11 cs., Innis Spieden & Co., Hamburg
HYDROGEN PEROXIDE—20 carboys, H. Sundheimer Co., Antwerp.
IRON OXIDE—12 cks., C. J. Osborn, Bristol; 30 cks., J. Lee Smith & Co., Hull; 20 kegs, 5 cks, J. H. Rhodes & Co., Liverpool; 12 cks., Reichard Coulston, Inc., Liverpool; 48 cks., J. Lee Smith & Co., Liverpool.
KAMALA—30 bgs, McLaughlin Gormley & King, Liverpool.
KAOLIN—515 bgs, Eberhard Faber Pencil Co., Trieste; 400 bgs, Order Trieste.
LAKASOL—318 drs., J. C. Browne, San Juan.
MAGNESITE—400 bgs., Whittaker Clark & Daniels, Antwerp.
MAGNESIA—Calcined, 60 cs., Schofield Co., Liverpool.
MAGNESIUS—Chloride, 295 drs., Innis Spieden & Co., Hamburg; 179 drs., Composition Material Co., Hamburg
MINERAL WHITE—50 cks., African Metals Corp., Antwerp.
OSSEINE—1273 bgs., Milligan & Higgins Glue Co., Havre.
PETARDEN—3cs., Kramer & Lange, Hamburg.
PHENAZONE—10 cs., Lo Curto & Funk, Southampton.
PHOSPHOR-CHLORIDE—71 drs., Kutroff Pickhardt & Co., Hamburg.
PINE ROSIN—90 cks., M. Grunbul, Inc., Hamburg.
PLASTER—550 cks., Whittaker Clarke & Daniels, Hamburg.
PLUMBAGO—466 bgs., 10 brls., J. Dixon Crucible Co., Colombo.
POTASSIUM-SALTS—33 cks., Kuttroff Pickhardt & Co., Hamburg; **Carbonate,** 67 cks., Innis Speiden Co., Hamburg; **Caustic,** 50 drs., Kuttroff Pickhardt & Co., Hamburg; 25 cs., Mallinchrodt Chem. Works, Gothenburg; 22 cs., Central Scientific Co., Gothenburg; 200 drs., A. Klipstein & Co., Hamburg; **Chlorate,** 3075 cks., Monmouth Chem. Corp., Hamburg; **Cyanide,** 21 drs., Bladiac Co., Antwerp; 68 cs., Roessler & Hasslacher Chem. Corp., Hamburg; **Muriate,** 1800 bgs., N. V. Potash Imptg. Corp., Hamburg; **Sulfide,** 1 cse., A Gusmer, London.
SALTPETRE—250 bgs., Superfos Co., Hamburg.
SHELLAC—100 bgs., Ralli Bros., Calcutta; 250 bgs., order Calcutta; 200 bgs., Phila. Girard Nat. Bank, London; **Seedlac,** 100 bgs., E. D. Sasson & Co., Calcutta; 150 bgs., Norton Lilly Co., Calcutta.
SODIUM SALTS—Acetate, 35 cks., A. Klipstein & Co., Antwerp; **Bisulfide,** 50 drs., Innis Speiden & Co., Antwerp; **Cyanide,** 420 cans C. Hardy, Inc., Havre; **Nitrate,** 1106 bgs., Kuttroff Pickhardt Co., Hamburg; **Sulphide,** 31 drs., F. Rudloff, Hamburg.
SPONGES—7 bls., J. H. Rhodes Co., Havana; 5 bls., American Express Co., Havana; 50 bls., Lasker & Bernstein, Havana.
SUMAC—350 bgs., A. Klipstein & Co., Palermo; 350 bgs., R. Neumann & Co., Palermo; 1400 bgs., order Palermo; 350 bgs., Corn Exchange Bank, Palermo.
SULFUR—15 cks., Lo Curto & Funk, Bristol.
TARTAR—500 bgs., Tartar Chem. Works, Nassau; 112 bgs., C. Pfizer & Co., Liverpool; 361 bgs., Tartar Chem. Works, Tarragona; 80 bgs., C. Pfizer & Co., Alicante; 581 bgs., Tartar Chem. Works, Alicante; 101 bgs., C. Pfizer Co., Valencia.
VEGETABLE—Black, 40 cks R. W. Greeff & Co., Antwerp.
WAX—Bees, 5 brls., D. Steengrafe, San Juan; 25 bgs., 5 cs., Nat. Bank of Commerce, Hamburg; 4 cakes Schall Pavensedt Co., Pto Plata; **Animal,** 13 bgs., C. Mandell Co., Tampico; **Candelilla,** 107 bgs., Cecilio Paez Hijos, Tampico; **Carnauba,** 376 bgs., Nat. City Bank, Parnahyva; **Ceresin,** 50 bgs., Strahl & Pitsch, Hamburg; **Mineral,** 80 bgs., Schliemann Co., Hamburg; **Montan,** 264 bgs., Smith & Nichols Co., Hamburg; 975 bgs., Strohmeyer & Arpe, Hamburg; **Montan** Pitch, 900 bgs., Strohmeyer & **Montan Pitch,** 900 bgs., Strohmeyer &
WHITING—2160 bgs., National City Bank, Antwerp.
WOODFLOUR—678 bgs., Burnett Co., Gothenburg.
WOOL GREASE—15 kegs, Lo Curto & Funk, Southampton.
ZINC-OXIDE—50 brls., Philipp Bros., Antwerp.
ZYKLON-B—290 cs., Roessler & Hasslacher Chem. Co., Hamburg.
OILS—Cod, 142 cks., Swan & Finch Oil Co., St. Johns; 375 brls., R. Badcock & Co., Hull; 485 brls., order Hull; 50 cks., R. Badcock & Co., St. Johns; **Codliver,** 1 drum, Fischer Hollinshed Co., Hamburg; 600 brls., order Hamburg; 100 brls., Fischer Hollinshed Co., Hamburg; **Creosote;** 53 brls., Kuttroff Pickhardt & Co., Hamburg; **Mineral,** 25 drs., Schliemann Co., Hamburg; **Palm,** 395 cks., African & Eastern Trdg. Co., Hamburg; **Palm Kernel,** 234 tons J. Bibby & Son Liverpool; 414 tons, order Hull; **Sulfur,** 300 brls., Superfos Co., Bari; 249 brls., Leghorn Trdg. Co., Bari; 2 tanks, Palmolive Co., Bari; 300 brls., H. W. Peabody & Co., Palermo; 173drs., J. B. Dewsnap & Co., Seville.

IMPORTS AT PHILADELPHIA
Oct. 26 to Nov. 2

ACIDS—Cresylic, 59 drums, order Manchester; **Formic,** 168 dem., order Hamburg; 74 cbys., order Hamburg.
AMMONIUM SALTS—10 bls., order Hamburg; 20 cks., order Rotterdam; 20 cks., order Rotterdam.
BAUXITE—1,567 tons, General Chemical Co., Georgetown Dem; 777,009 kilos, Bank of America, Rotterdam; 5,486.400 kilos, Penna., Salt Mfg. Co., Toulon.
BONE MEAL—500 bgs., order Liverpool.
BRONZE POWDER—13 cs., Koor-Maurer Co., Bremen.
CASEIN—417 bgs., Bank of London & South America, Ltd., Buenos Ayres.
CHALK—1,000 bgs., order Anntwerp; 1,000 bgs., order Antwerp; **Block,** 500 tons Brown Bros. & Co., London.
CHEMICALS—80 balloons, Roessler & Hasslacher Chem. Co., Rotterdam; 67 cks order Rotterdam; 211 cs order Rotterdam; 500 bgs order Hamburg; 400 dem., Hamburg; 2 cs., order Hamburg; 301 drums; E. H. Bailey & Co., London; **Non-Narcotine,** 10 cks., order, Rotterdam
COAL TAR DISTILLATE—40 drums, Monarch Chem. Works, Liverpool.
COBALT OXIDE—5 cks., E. S. Neilson, Liverpool.
EPSOM SALTS—100 cs., order Hamburg; 39 cs., order Hamburg.
FLUORSPAR—400 tons, order Manchester; 2,000 tons, American Exchange Irving Trust Co., Toulon.
GLYCERIN—30 drums, order Havre; 70 cks., order Marseilles; 20 cks., order Marseilles; 100 dms., order Buenos Ayres; 20 dms., order Hamburg.
GREASE—30 bls., order Manchester.
GUMS—Copal, 32 bgs., John H. Faunce, Inc., Liverpool.
GYPSUM—1,324 bgs., Phila.-Girard National Bank, Hamburg.
KIESELGUHR—710,000 kilos, Orelite Co., Inc., Oran.
LINSEED—86,880 bgs., order Rosario; 4,209 bgs., order Buenos Ayres; 9,199 bgs., order Rosario & Buenos Ayres.
MOLASSES—1,300,000 gallons, Publiker Consul Alcohol Co., Antilla.
MYROBALANS—2,000 pockets, order Calcutta.
NITROGENOUS FERTILIZER — 5,000 bgs., order London.
OCHRE—90 cks., order Marseilles; 50 cks.,

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Magnesium Carbonate	Formaldehyde
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Thionyl Chloride

order Marseilles; **Yellow,** 200 bgs., E. F. & I. Waldo, Inc., Calcutta.
OILS—Sulfur Olive, 100 bls., order Leghorn; 100 bls., Franklin Fourth St. Bank, Messina.
ORES—Iron, 6,900,000 kilos, Delaware River Steel Co., Bougie; 255 tons., C. K. Williams & Co., Malaga; 6,000 tons, order Benisaf; **Manganese,** 1,500 tons, Central Provinces, Manganese Co., Calcutta; **Pyrites,** 6,510 tons, The Pyrites Co., Huelva.
PIG IRON—806,856 lbs., order Calcutta.
SHELLAC—500 bgs., order Calcutta; 500 bgs., order Calcutta; 57 sacks., order Rotterdam; 100 bags, Phila-Girard Nat. Bank, London.
SODIUM—SALTS—Silicofluoride, 125 bls., Bank of America, Rotterdam.
SUMAC—Extract, 15 cs., American Dyewood Co., Glasgow; **Ground,** 1,400 bgs., Drulding Bros. Co., Messina; **Leaves,** 200 bls., order Messina.
TALLOW—1,124 cks, order Rosario; 696 cks., order Buenos Ayres; 1.101 cks., order Buenos Ayres; 219 cks., order Buenos Ayres; 405 cks., order Buenos Ayres.
WOOL GREASE—50 bls., order Liverpool.

IMPORTS AT SAN FRANCISCO
Oct. 22 to Oct 29

ACID—45 dms, order Hamburg
ALBUMEN—1,935 bxs., Swift & Co., Shanghai.
BEAN MEAL—1,000 bgs., International Banking Corporation, Dairen; 6,000 bgs., Balfour, Guthrie & Co., Dairen.
BONES—307 bgs., order Buenos Aires
CAKE MEAL—125 bgs., order Kobe.
CHALK—715 bgs., Bradley & Eckstrom, Limhamo.
CHEMICALS—50 bls., order Hamburg.
COPAL—41 sacks, order Havre.
COPRA—2,610 sacks, Atkins, Kroll & Co., Suva; 1492 sacks, Wolff, Kirchmann & Wales, Suva.
Co., Suva; 849 sacks, Bank of New South
LIME—35 bgs., order London.
LINSEED OIL MEAL CAKE— 1500 bgs., I. A. Wood & Co., Kobe.
OIL—Eucalyptus, 10 dms., P. W. Bellingall, Melbourne; **Palm,** 567 bls., General SS Corporation, Kobe.
TANKAGE—6070 bgs., order Buenos Aires.
TAPIOCA—334 bgs., Anglo & London Paris National Bank, Sourabaya.
TURPENTINE—25 cs., I. Escobosa, Jr., Acapulco.
WAX—2944 bgs., Shell Company, Belipapapan; **Bees,** 28 sacks, Rapael G. Horres, Mazatlan.

BALTIMORE IMPORTS
Oct. 27 to Nov. 3

BONE MEAL—560 bgs., F. H. Shallus Co., Goettingen, Hamburg.
CHEMICALS—168 bls., Roessler & Hasslacher Chemical Co., Goettingen, Hamburg; 600 bgs., F. H. Shallus Co., Goettingen, Hamburg.
CHROME ORE—1000 tons, F. H. Shallus Co., Generale Petitte, Salonica.
CLAY—75 cks., F. H. Shallus Co., Goettingen, Bremen.
CRYOLITE—32 bls., 28,431 lbs., F. H. Shallus Co Vincent, Havre; 32 bls F. H. Shallus Co., Liberty Land, Marseilles.
EARTH COLOR—20 cs., American Cezolack Corp., Goettingen, Hamburg.
EPSOM SALT—250 bgs., F. H. Shallus Co., Goettingen, Bremen.
FERROPHOSPHOR—1105 cs., 593,666 lbs., William H. Muller & Co., New York, Vincent, Dunkirk.
FLUOR-SPAR—1,980,792 lbs., to order Goettingen, Bremen; two lots, F. H. Shallus, Goettingen, Bremen.
GYPSUM—715 bgs., A. Schumacher & Co., Goettingen, Bremen.
IRON ORE—20,000 tons, Bethlehem Steel Corp., Marore, Cruz Grande; 3500 tons, Bethlehem Steel Corp., Firmore, Felton; 6974 tons, Bethlehem Steel Corp., Laponia, Lulen; 1600 bgs., 200 tons, C. K. Williams & Co., Bellhaven, Avonmouth.
LEUNASALTPETRE—4536 bgs., 997,920 lbs F. H. Shallus Co., Seattle Spirit, Hamburg.
LIME STONE—8000 tons, Bethlehem Steel Corp., Firmore, Felton.
LOGWOOD—241 tons, J S. Young Co., Britte, Falmouth.
MANGANESE ORE—7700 tons Cottman Company, Santa Rosalia, Ria de Janeiro; 1500 tons, Carnegie Steel Co., City of Delhi, Calcutta; 9509 tons Bethlehem Steel Corp., Pellenzo, Poti.

Exports *Chemicals, Oils ana Fats*

EXPORTS AT NEW YORK

ACETONE—480 drs., Oct. 7, London.
ACIDS—Chromic, 2 drs., Oct. 21, London; **Citric,** 3 kgs., Oct. 11, Buenaventura; **Phosphate,** 7 pgs., Oct. 1, Santos; 12 pgs., Oct. 1, Rio de Janeiro; **Sulfuric,** 80 drs., Oct. 11, Talara; 29 carboys, Oct. 11, Antofagasta; **Tartaric,** 1 kg., Oct. 11, Buenaventura.
AOLIN—1 cse., Oct. 25, Havre.
ALUMINUM POWDER—40 cs., Oct. 7, London.
AMMONIA—Anhydrous, 50 cyls., Oct. 21. Havana; 40 cyls., Oct. 19, Tampico; 10 cyls.,, Oct. 11, Callao; **Bromide,** 70 cs., Oct. 7, London; **Carbonate,** 3 cs., Oct. 11, Callao.
BONE ASH—49 bls., Oct. 18, Antwerp.
BRONZE POWDER—20 cs., Oct. 21, Havana.
BUTANOL—80 drs., Oct. 7,, London; 160 drs., Oct. 21, London.
CALCIUM—Carbide, 600 drs., Oct. 5, Matanzos; 900 drs., Oct. 5, Havana; 360 drs., Sept. 30, Nuevitas; 90 cs., Oct. 11, Buenaventura; 40 cs., Oct. 11, Buenaventura; 10 cs., Oct. 1, **Buenos Aires; 10** cs., Oct. 19, Tampico.
CARBON BLACK—400 bgs., Oct. 11, Antofagasta.
CELLOSOLVE—5 drs., Oct. 21, London; 25 drs., Oct. 7, London.
CLAY—360 bls., Oct. 7, Rotterdam.
COLORS—25 pgs., Oct. 18, Antwerp; 21 drs., Oct. 14, Barcelona.
COPPER—Sulfate, 1 kg., Oct. 21, Cape Haiteen; 8 cks., Oct. 5, Havana.
CYANIDE—206 drs., Oct. 19, Tampico.
ETHYLENE DICHLORIDE—1 dr. Oct. 7, London.
GLYCOL—1 dr., Oct. 21, London; 1 dr., Oct. 7. London.
EXTRACT—Tanning, 20 bls., Oct. 25, Havre; 7 bls., Oct. 14, Rotterdam; 22 bbls., Oct. 1, Buenos Aires.
FERTILIZER—35 bls., Oct. 18, Antwerp.
GLAUBER SALT—2 kgs., Oct. 21, Santo Domingo.
GLUE—40 cs., Oct. 1, Buenos Aires.
LEAD—Arsenate, 11 drs., Oct. 21, Cape Haiteen.
LIME—Chloride, 27 cs., Oct. 21, Glasgow; **Hydrated,** 200 bbls., Oct. 19, Tampico; **Hypophosfites,** 15 cs., Oct. 1, Rio de Janeiro.
LINSEED OILCAKE—1337 bgs., Oct. 24, Rotterdam; 465 bgs., Oct. 7, Rotterdam; 3495 bgs., Sept. 20, Antwerp; 10,420 bgs., Oct. 18, Antwerp.
NITROUS OXIDE—4 cs., Oct. 21, Havana.
OIL—Codliver, 15 cs., Oct. 11, Buenaventura; 10 drs., Oct. 11, Talara; **Rosin,** 6 bbls., Oct. 7, Rotterdam.
PHOSPHOROUS AMORPHOUS—2 cs., Oct. 11, Cartagena.
PITCH—112 bbls., Oct. 7, Rotterdam.
PLASTER PARIS—10 bbls., Oct. 21, Port au Prince.
POTASSIUM SALTS—Bromide, 200 cs., Oct. 7, London; **Caustic,** 30 drs., Oct. 1, Pto Barrios.
ROSIN—42 bbls., Oct. 7, London.
SODIUM SALTS—Ash, 25 bbls., Oct. 14, Romana; 4 bbls., Oct. 11, Pimentel; 50 bbls., Oct. 11, Salaverry; **Bicarbonate,** 2 kgs., Oct. 21, Santo Domingo; 10 bbls., Oct. 11, Pimentel; **Caustic,** 80 drs., Oct. 19, Tampico; 25 drs., Oct. 11, Pimentel; 12 drs., Oct. 11, Buenaventura; 25 drs., Oct. 21, Macoris; 54 drs., Sept. 30, Neuvitas; 10 drs., Oct. 11, Buenaventura; **Bichromate,** 32 cks., Oct. 11, Valparaiso; **Bromide,** 90 cs., Oct. 7, London; **Hypophosfite,** 7 cs., Oct. 1, Rio de Janeiro; **Sponges,** 22 bls., Oct .7, Rotterdam; 5 bls., Oct. 1, Buenos Aires.
TALC—400 bgs., Oct. 5, Matanzas; 175 cs., Oct. 21, Havana.

NITROGENOUS MATERIAL—500 bgs., Cottman Company, Erfurt, Bremen.
OIL—2 cs., Baltimore & Ohio Railroad, Goettingen, Bremen.
PEAT—Moss, 200 bales, Atkins & Durbrow, Goettingen, Bremen; **Mull,** 1694 bales Atkins & Durbrow, Goettingen, Bremen .
POTASH—Muriate, 1,995,400 lbs., Standard Wholesale Phosphate & Acid Works, Goettingen, Hamurg; **Nitrate of,** 150 bbls. 76,290 lbs., Harshaw, Fuller & Goodwin Co., New York, Vincent Dunkirk
PYRITES—6470 tons, Davison Chemical Co., Livingstonia, Huelva.
WHITING—Powdered, 50 bags, 110,000 lbs., Continental Whiting Co., Vincent, Dunkirk.

IMPORTS AT BOSTON
Oct. 22 to 29

AMMONIA—Muriate, 20 drs., Kuttroff Pickhardt & Co., Rotterdam.
ANILINE COLORS—2 cks., Dyestuff Corp., Liverpool.
GLYCERINE—10 drs., Irving M. Sobin, Rotterdam.
IRON—Sulfate, 50 drs., Kuttroff, Pickhardt & Co., Rotterdam.
POTASH—20 cks., 160 cybs., R. & H. Chemical Co., Rotterdam.
SODIUM—Phosphate, 50 drs., order Antwerp; 100 cks., R. & H. Chemical Co., Antwerp; 67 cks., A. Klipstein & Co., Antwerp; **Sulfite,** 11 drs., Kuttroff, Pickhardt & Co., Rotterdam.
ZINC—Oxide, 75 bls., Phillip Bros., Inc., Antwerp.

IMPORTS AT NEW ORLEANS
Oct. 28 to Nov. 4

BENZINE—9390 tons, N. O. Refining Co., Curacao.
FERRO-MANGANESE—100 tons, order Liverpool.
GUM—Chicle, 431 sacks Wm. Wrigley Co., Port Barrios.
MOLASSES—768,034 gals., Penick & Ford, Preston.
NAPHTHALENE—515 sacks, order Rotterdam.
OIL—Olive, 7 tons, order Genoa.
SODA—Nitrate, 708 bags, W. R. Grace, 1,646,389.—Grabular Carbon and Process Nitrate Co., Iquique; 96,938 sacks, E. I. **Dupont de Nemours, Iquique.**
SALT—500 sacks, order Liverpool.

LOWER RAILROAD RATES PROPOSED FOR BORAX

A hearing on lower railroad rates on borax between Death Valley points and Texas seaports was recently held before the Interstate Commerce Commission, according to Clarence Matson, chief, Dept. of Foreign Commerce and Shipping, Los Angeles Chamber of Commerce.

"The commission has not announced its decision," said Mr. Matson, "but if the proposed rate cut is granted it will tend to divert all European shipments of borax through Texas ports, thus curtailing considerable business through Los Angeles harbor.

"Under present rates, handling charges between the source of supply and the local harbor are $4 per ton and from the harbor to Europe an additional $9 per ton, making a total of $13 for delivery abroad. The petition asks that charges to Texas ports be reduced to $8 per ton which with a $5 shipping rates from there to Europe would equalize the two rates."

Annnal election of officers and an addresses on "Ice Engineering" by Prof. Howard T. Barnes, McGill University, Montreal, Canada, will feature the regular meeting of the New Jersey section, American Chemical Society, in Newark on Nov. 14.

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Patents

Latest Issues Covering Chemical Products and Processes.

TO SECURE COPIES OF PATENTS

U. S., 10c U. S. Patent Office, Washington. British, draft on London, one shilling, British Patent Office, 25 Southampton Bldgs., Chancery Lane, W. C. 2, London. French one franc, Minister of Commerce & Industry, Paris. German, draft on Berlin, one mark, German Patent Office, Berlin.
Application date appears with each patent.

UNITED STATES PATENTS
Issued Oct. 25, 1927

1,646,389.—Grabular Carbon and Process of Making it. E. N. Bunting, East Orange, Apr. 29, 1925.

1,646,391.—Cop Pad Composition. S. Cossia, New York. Oct. 7, 1926.

1,646,448.—Oil Distilling Apparatus, E. C. D'Yarmett, Wichita Falls, Tex., assignor, one half, O. K. Herndon, Kansas City, Mr. Apr. 2, 1926 and Dec. 16, 1926.

1,646,454.—Separating Two or More Substances from a Solution. I Isaachsen, Christiania, Norway, assignor, A. S. Kyrstal. Feb. 26, 1923.

1,646,543.—Oil Cracking Process. W. C. Kirkpatrick, Alhambra, Calif., assignor, National Refining Process Corp., Los Angeles. Aug. 27, 1925.

1,646,581.—Water Softening Apparatus. C. P. Eisenhauer, Dayton, assignor, The Duro Co. July 26, 1926.

1,646,582.—Mixer and Proportioner. E. P. Halliburton, Los Angeles. Aug. 9, 1926.

1,646,596—Water Treating Medium and Germicide. H. Reinbold, Omaha. Aug. 10, 1925.

1,646,619.—Fractional Distillation. N. E. Loomis, Elizabeth, N. J., and W. K. Lewis, Newton, Mass., assignors, Standard Development Co. July 21, 1922.

1,646,698.—Fractional Distillation Process. H. Koppers, Essen-Ruhr, Germany, assignor, The Koppers Development Corp. July 6, 1921.

1,646,731.—Glazing Compositions. C. S. Hudson, Trenton, assignor, Standard Development Corp. Aug. 19, 1921.

1,646,732-3.—Aluminum Chloride Process. H. I. Lea, Santa Monica, Calif. and C. W. Humphrey, Red Bank, N. J. Aug. 10, 1921 and June 20, 1923.

1,646,760.—Handling Crude Oil and Residuals. A. E. Miller, Chicago, assignor, Sinclair Refining Co. May 9, 1921.

1,646,782.—Glyoxal Dianthraquinone Compound. R. Berliner, B. Stein and W. Trautner, Elberfeld, Germany, assignors, Grasselli Dyestuff Corp., New York. Sept. 16, 1926.

1,646,785.—Aryl Esters of Nitroaminobenzene Sulphonic Acids. W. Duisberg, W. Tentrich and L. Zeh, Cologne, assignors, Grasselli Dyestuff Corp., New York. June 9, 1925.

1,646,793.—Brown Substituted Benzidine Wool Dyestuffs. W. Neelmeier, Leverkusen, Germany, assignor, Grasselli Dyestuff Corp., New York. Sept. 16, 1926.

1,646,838.—Treating Sulphur. J. W. Schwab, Gulf, Tex., assignor, Texas Gulf Sulphur Co., Bay City, Tex. Jan. 30, 1924.

1,646,913.—Mixing Fluids of Different Densities, apparatus. F. Jost, San Francisco. Nov. 19, 1923.

1,646,929.—Cracking Still. A. A. Phelan, Los Angeles. Nov. 1, 1926.

1,647,021.—Electrolyte Seal and Process. E. A. Schumacher, Brooklyn, assignor, National Carbon Co. Oct. 16, 1923.

1,647,026.—Descrutive Distillation of Hydrocarbons. C. W. Turner, New York. July 25, 1923.

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Issued Sept. 28, 1927

275,239.—Drying Apparatus. Mascinenfabrik Grevenbroich, Grevenbroich Germany. July 27, 1927.

275,242.—Diazo Compounds. I. G. Farbenindustrie A.G., Frankfurt. July 27, 1927.

275,248.—Destructive Hydrogenation. I. G. Farbenindustrie A.G. July 28, 1927.

275,258—Aminonaphthol Derivatives. I. G. Farbenindustrie A.G. July 29, 1927.

275,267.—Sulphonating Fats, etc. Chemische Fabrik Milch A.G., Berlin. Aug 2, 1927.

275,271.—Benzanthrone Derivatives. I. G. Farbenindustrie A.G. Aug. 2, 1927.

275, 273.—Hydrogen from Carbon Monoxide and Steam, catalysis. F. Guelker, Gelsenkirchen, Germany. Aug. 2, 1927.

275,277.—Quinoline Derivatives. I. G. Farbenindustrie A.G. Feb. 4, 1926.

275,281.—Cracking Hydrocarbons. C. Longhi, Milan. Mar. 1, 1926.

275,283.—Isoviolanthrenes . British Alizarine Co., Ltd., W. H. Dawson and P. Beghin, Manchester. Mar. 4, 1926.

275, 284.—Alcohols. I. G. Farbenindustrie A.G. Mar. 4, 1926.

275,292.—Thioindigoid Dyes. I. G. Farbenindustrie A.G. Apr. 9, 1926.

275,301.—3—Arylamino—1: 8—Naphthosultans. I. G. Farbenindustrie A.G. Apr. 29, 1926.

275,307.—Azo Dyes. I. G. Farbenindustrie A.G. May 1, 1926.

275,313.—Cracking Hydrocarbons and Phenols. R. Cross, Kansas City, Mo. May 3, 1926.

275,320.—Compound Roofing Material. F. W. Thomas, Newport, Monmouthshire, England. May 3, 1926.

275,321.—Catalytic Oxidation of Hydrocarbons. E. I. DuPont de Nemours & Co., Wilmington Del. May 3, 1926.

275,326.—Azo Dyes. I. G. Farbenindustrie A.G. May 4, 1926.

275,333.—Filtering Liquids. E. J. Sweetland, Hazleton, Pa. May 5, 1926.

275,334.—Motor Fuel. H. F. Parker, London. May 5, 1926.

275,344.—Purifying Solutions Containing Sodium Arsenate and Stannate. H. Harris, London. May 7, 1926.

275,345.—Catalysis of Methanol. Synthetic Ammonia & Nitrates Ltd. and H. G. Smith, Stockton-on-Tees, England. May 12, 1926.

275,361.—Tar Boilers. B. Morton, Manchester, H. B. Dewhurst, J. Molyneux, F. Hoon and H. H. Dewhurst, Preston, Lancashire. May 28, 1926.

275,364.—Bituminous Concrete. L. S. Van Westrum, Westminster. May 31, 1926.

275,373.—Azo Dyes. British Dyestuffs Corp., R. S. Horsfal, L. G. Lawrie and J. Hill, Manchester. June 11, 1926.

275,375.—Making Emulsions. A. C. Bamford, New Brighton, Cheshire. June 12, 1926.

275,377.—Methylamine Compounds. A. Mackert, Tauberbischofsheim, Baden, Germany. June 17, 1926.

275,421.—Anthraquinone Dyes. British Dyestuffs Corp., A. Shepherdson and W. W. Tatum, Manchester . Aug. 19, 1926.

275,448.—Artificial Marble. B. Bia, Brussels, and J. E. D. de Ville de Bielize, Paris. Oct. 26, 1926.

275,459.—Ammonium Carbonate. Rhenania Kunheim Verein Chemischer Fabriken A.G., Berlin. Nov. 20, 1926.

275,463.—Alkaline Earth Carbonates. Dwight & Lloyd Metallurgical Co., New York. Nov. 26, 1926.

275,536.—Purifying Fats and Fatty Oils. Metallbank und Metallurgische Ges. A.G., Frankfurt. Sept. 20, 1926.

275,539.—Fungicides. I. G. Farbenindustrie A.G. Oct. 15, 1926.

275,558.—Molding Powder. Soc. Chimique des Usines du Rhone, Paris. Apr. 12, 1927.

275,574.—Cashew Nut Oil Products. M. T. Harvey, Newark, assignor, Harvel Corp., June 23, 1927.

275,585.—Destructive Hydrogenation. Soc. Internationale des Procedes Prudhomme-Houdry, Paris. July 12, 1927.

275,600.—Synthesis of Alcohol. Compagnie die Bethune, Pas de Calais, France. July 25, 1927.

275,604.—Synthetic Resins and Varnishes. J. H. Schmidt, Bloomfield N. J. assignor, Bakelite Corp., New York. July 26, 1927.

275,609.—Triarylmethane Dyes. I. G. Farbenindustrie A.G. July 27, 1927.

275,610.—Coating Compositions. C. Tauber, Leipsig, Germany. July 27, 1927.

275,613.—Azo Dyes. I. G. Farbenindustrie A.G. July 28, 1927.

275,622.—Diaminopropanols. I. G. Farbenindustrie A.G. Aug. 3, 1927.

275,627.—Recovering Fats. C. Van Overstraeten, Brussels. Aug 3, 1927.

275,633.—Condensing Benzols. Ges fuer Linde's Eismaschinen A.G., Munich and Soc. Anon. Metallurgique de Sambre er Moselle, Montigny sur Sambre, Belgium. Aug. 3, 1927.

275,636. — Oxyalkylaminoanthraquinones. I. G. Farbenindustrie A.G. Aug 4, 1927.

275,641.—Cellulose Formate. E. Eloed, Karlsruhe, Baden, Germany. Aug. 4, 1927.

275,642.—Hydrogenating Oils. H. Marchand, Favegres, Haute Savoie, France. Aug. 5, 1927.

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Issued Sept. 8, 1927

630,360.—Lignone Derivatives. C. F. Cross and A. Englestad. Sept. 17, 1926.

630,408.—Organic Transformation Products. I. K. Farbenindustrie A.G. Mar. 7, 1927.

630,426.—Ammonium Sulphate. Toranosuke Nishigawa. Mar. 7, 1927.

630,424.—Acetic Anhydride and Anhydrides of its Homologues and Derivatives. I. G. Farbenindustrie A.G. Mar 7, 1927.

630,483.—Formaldehyde. Societe Chimique de la Grande Paroisse, Azote et Products Chimiques. June 3, 1926.

630,589.—Homogeneous Compound of Mineral Oil and Alcohol. W. Huessy. Mar. 9, 1927.

630,332—Grinding Pigments. Societe Francaise des Products Chimiques et des Comines. and H. Deleschaud. Mar. 5, 1927.

630.392.—Orthoaminoaldehydes and Ortho Aminoacetones of the Anthraquinone Series. I. G. Farbenindustrie A. G. Mar. 5, 1927.

630,511.—Orthoaminocarboxylic Acids of the Anthraquinone Series. I. G. Farbenindustrie A.G. Mar. 7, 1927.

630,389.—Ameliorating Action of Sulphonic Acids in Decomposing Oils and Fats. Vereinigte Chemische Werks A.G., F. L. Schmidt and E. Hoyer. Mar. 5, 1927.

630,409.—Enzymatic Products for Cleansing Purposes. Rohm & Haas A.G. Mar. 7, 1927.

630,553.—Salts from Sea Water. M. M. G. Malcor. Mar. 8, 1927.

630,344.—High Temperature Treatment of Hydrocarbons. I. G. Farbenindustrie A.G. Mar. 5, 1927.

630,400.—Preventing Adherence of Rubber Articles. K. Medgyes. Mar. 5, 1927.

630,569.—Precipitating Metallic Hydroxides not Containing Iron. O. Lederer, W. Stanczak and H. Kassler. Mar. 8, 1927.

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Issued Sept. 29, 1927

446,268.—Pressing Plastic Masses into Forms under High Pressure, apparatus. Deutsche Bergin A.G. fuer Kohle und Erdoelchemie, Heidelberg. May 24, 1924.

446,488.—Hydrogen from Water Gas. F. Guelker, Gelsenkirschen, Germany. July 31, 1926.

446,489.—Hafnium, process for obtaining. Siemens & Halske A.G., Berlin-Siemens stadt. Mar. 26, 1926.

446,525.—Sodium Bisulphite or Sodium Sulphite from Sodium Bicarbonate and Sulphuric Acid. Chemische Fabrik G.m.b.H., Koeln and Dr. H. Oehme, Koeln-Kalk, Germany. April 5, 1926.

446,490.—Automatic Regulation of Heating of Preheater in Contact Apparatus operating on gases with varying content of sulphur dioxide. Metallbank und Metallurgische Gesellschaft A.G., Frankfurt. April 14, 1926.

446,398.—Sulphuric Acid Manufacture in Towers, Chambers, etc. S. Barth, Duesseldorf-Oberkassel, Germany. July 11, 1923.

446,491.—Sulphuric Acid in Lead Chambers. J. W. Skoglubd, New York. Sept. 30, 1925.

446,408.—Nitrogen Oxide Producer operated on electric are principle with sparking regulator on air nozzles. A .Nagle, Hamburg. Nov. 5, 1926.

446,399.—Phosphoric Acid and Hydrogen. I. G. Farbenindustrie A.G., Frankfurt. Mar. 27, 1925.

446,409.—Light Lead Arsenate, process. Gebr. Borchers A.G. and Dr. F. Borchers Goslar, Harz. June 15, 1926.

446,410.—Finely Pulverized Carbide. Dr. H. Wittek, Beuthen, O.S. May 15, 1926.

446,492. — Complex Fluosilicic Acids. A. F. Meyerhofer, Zurich. Oct. 28, 1923.

446,337.—Sulphate Ovens with Stirrers. Metallbank und Metallurgische Ges, A.G.,

SOAP AND GLYCERINE MANUFACTURE

A MODERN TREATISE ON THE PRODUCTION OF SOAPS OF ALL KINDS, AND ON THE RECOVERY AND DISTILLATION OF GLYCERINE.

BY E. T. WEBB

DIRECTOR, THE BIDSTON SOAP COMPANY, LTD., MANCHESTER.

FORMERLY: Manager, Messrs. McLintons, Ltd., and Messrs. David Brown and Sons, Ltd., Donaghmore, County Tyrone, Ireland; Chemist-in-Charge, Glycerine Distillation Plant, H.M. Factory, Gretna; Manager, Royston Soaps, Ltd., Glasgow; Assistant to Works Manager, C.W.S. Soap Works, Irlam, Manchester; Assistant to Works Manager, Lever Bros., Ltd., Port Sunlight.

MR. JOHN ALLAN, OF J. CROSFIELD & SONS, LTD., SAYS OF MR. WEBB'S NEW BOOK:—"IT IS UNDOUBTEDLY THE BEST DESCRIPTION OF SOAP MANUFACTURE, AS AT PRESENT PRACTICED, WHICH HAS YET APPEARED. THERE CAN BE NO DOUBT THAT THE AUTHOR'S HOPE 'THAT THE METHODS ADOPTED IN THE BOOK WILL GO AS FAR AS POSSIBLE TOWARDS SUPPLYING THE INFORMATION THE SOAP MANUFACTURER REALLY NEEDS' WILL BE FULFILLED. IT CANNOT FAIL BOTH TO INTEREST AND INFORM EVEN THOSE MOST SKILLED IN THE MANUFACTURE IT DESCRIBES."

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Frankfurt. Dec. 17, 1924.
446,543.—7: 8—Benzoacridin—9—Carboxylic Acids. I. G. Farbenindustrie A.G. July 5, 1925.
446,544.—Indoles. I. G .Farbenindustrie A.G. Mar. 26, 1925.
446,548. — Benzyl — 2 — Oxybenzanthrone. I. G. Farbenindustrie A.G. Sept. 29, 1925.
4461495-6.—Azo Dyes. I. G. Farbenindustrie A. G. Feb. 5, 1925.
446,563.—Anthraquinone Dyes. I. G. Farbenindustrie A. G. April 18, 1925.
446,562.—Polymerization Products of Vinyl Acetate and lacquers. Consortium fuer Elektrochemische Industrie G.m.b.H., Muenchen. May 16, 1926.
446,288.—Gelatin or Glue Adhesive. Gebr. Merz, Merz Werkem Frankfurt and R. E. Liesegang. June 21, 1925.
446,530.—Insecticide. I. G. Farbenindustrie A.G. Feb. 11, 1923.

Artificial indigo, basis 20 per cent, importations at Shanghai for eight months ending August 21, 1927, totalled 171,000 piculs (133 1/3 pounds) representing a decrease of 40 per cent from the same period last year reports Trade Commissioner A. B. Calder, Shanghai, China. Direct importations at Tientsin partially offset this decline as imports of indigo there, January to September 1927, totalled 45,000 piculs compared with 26,000 in the same period last year. Aniline dye importations at Shanghai for eight months ending August 31, 1927 are valued at Haikwan taels 1, 521,000 or 21 per cent increase over last year for the same period with 53 per cent of total supplied by Germany and 15 per cent by the United States. Tientsin imports of aniline dyes for 9 months ending September 30, 1927 amount to Haikwan taels 1,-064,000 compared with 448,000 for the same period of 1926. The 1927 value computed for the Haikwan tael is 66.27 cents; value in 1926 was 76 cents in U. S. currency.

DU PONT CO. MAKES NEW APPOINTMENTS

E. I. du Pont de Nemours & Co. announces that in the Paint, Varnish and Lead Division, W. F. Donohoe has been appointed assistant division manager; A M. Sullivan, sales manager, Philadelphia district; W. T. Banning, assistant sales manager, Philadelphia district; J. Nelson Wertz, supervisor, Pittsburg district; and Harold Bodin, chief, technical department, Chicago plant.

An officer of the Malagash Salt Products, Ltd., Nova Scotia, recently conferred with German business men who are said to be interested in the exploitation of the Malagash potash deposits, according to reports received by the Dept. of Commerce.

E. C. B. Kirsopp, vice-president, Resinous Products & Chemical Co., Philadelphia, spoke on synthetic resins at a meeting of the Chicago Production Men's Club, Nov. 7.

PLANS MANUFACTURE OF SYNTHETIC RUBBER

The manufacture of synthetic rubber, according to reports, will soon be started by the Synthetic Rubber Corp. of America, which plans the erection of three manufacturing plants located in New York, New Jersey and Connecticut.

John J. Owen is the inventor of the process by which he claims rubber goods are synthetically made of vegetable and gum compounds, chemically treated and vulcanized. Mr. Owen is a chemist and druggist, a graduate, it is said, of Boston College of Pharmacy and Johns Hopkins University. He claims that his product can be put on the market at less than one third the cost of rubber; that it will be better than rubber itself, and that the manufacture will be speedier, as it can be turned out in 72 hours after receiving an order.

Etablissements Kuhlmann have increased their capital from 190 to 200 million francs by the issue of 100,000 new plural-vote shares of 100 francs nominal value each according to reports. The company proposes to double the output of synthetic nitric acid at their Madeleine plant, the present capacity of which is 20 tons daily.

Negotiations have been in progress for several months between the three major Belgian chemical producers, Societe Generale de Produits Chimiques, Brussels; Societe Anonyme de Produits Chimiques de Droogenbosch, Burght, and the Societe Anonyme des Industries Chimiques de Wilsele, Wilsele, according to a London report. It is rumored that negotiations may lead to the formation of a combine or sales cartel.

I. G. PLANT FOR HUNGARY

The German dye trust, Interessen Gemeinschaft, has been negotiating for the probable purpose of erecting a rayon plant in Hungary, according to advices received at the Department of Commerce from Berlin. Hungary has only one rayon plant at present and an I. G. plant in that country would probably also sell the entire Balkan market.

Disinfection Production, in Canada in 1926 by distillers of crude coal tar and firms primarily engaged in the manufacture of disinfectants was valued at $120,772 an increase of $600 over 1925. Imports into Canada during 1926, "liquid preparations, nonalcoholic, for disinfecting, dipping or spraying, n. e s." were valued at $162,607 an increase of $5,000 over 1925.

The situation in Germany's superphosphate industry has been growing steadily worse for last few months, reports Consul H. C. Claiborne, Frankfort-on-Main. Despite an increase in consumption of nitrogen by agriculture, the demand for superphosphate has remained the same as last year, and, to make matters worse, imports have augmented. The falling off in sales of German superphosphate is not only attributed to the poor crops in the principal consumption areas, but to the introduction of the I. G. Farbenindustrie's special mixed fertilizers. The capacity of the German industry is about 2,000,000 metric tons a year, and, although exact estimates are not available, it is known that this output is not reached by a very broad margin.

Canada in the first nine months of 1927, as pointed out by "American Metal Market," exported 40,685,100 pounds of aluminum against 15,625,000 in same period of 1926. Of this total 33,726,000 pounds went to the United States, increase of nearly 200% compared with 11,427,000 pounds in same period a year ago.

Practically all the Canadian aluminum was imported by Aluminum Co. of America, presumably for fabrication here and export later, as otherwise there is a duty of five cents a pound on aluminum brought into the United States. Export figures do not indicate any corresponding increase in outgoing aluminum products.

NEW METHODS DEVISED FOR MAKING DRIED MILK

New methods for making dried skim milk, a product for bread-making purposes, have been devised by the Department of Agriculture, according to a recent announcement. Dried skim milk has a high food content composed of 38 per cent proteins, 50 per cent milk sugar and 8 per cent mineral salts.

Several other advantages of dried milk and a brief outline of the improved process of manufacture are outlined in Separate 940-Y from the 1926 Year Book of Agriculture. This separate has just been published in pamphlet form and may be obtained by application to the Department of Agriculture, Washington, D. C.

Char Products Co., Indianapolis, Ind., is arranging for the early rebuilding of the portion of its plant recently destroyed by fire with loss of about $20,000, including equipment.

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BRITISH CHEMICAL PROGRESS

(Continued from Page 634)

will thereby be opened up.

British Solvents Championed

Another direction in which British manufacturers are expanding their interests is in the field of the new lacquer solvents. We must deny the potency claimed for the adverse criticisms which have been made against home manufactures of this class of compounds. It has been held by the consumer, be it noted, that the range of solvents made in this country is too limited and that prices are prohibitive. Our makers have even been accused of unwillingness to enter world markets.

In this connection, we had cause to investigate the position fairly exhaustively, and were convinced that on every one of these grounds, the criticism was entirely unjustified. As regards range of products, one need go no further than the advertising columns of the trade press to find that in place of the solvents produced in other countries which are not made in the United Kingdom, there is an equally wide range of alternatives which are equal and in many cases superior, to those offered from abroad. With respect to price considerations, it was ascertained that comparison was being made between entirely different qualities of products; and in so far as the attitude of British manufacturers to foreign markets was concerned, one concluded that it would be difficult to find a country where efforts were more concentrated on developing both home and export business than here. We have since had our findings confirmed, and this time by unsolicited disclosure of the attitude of competitive foreign manufacturers, who, we find, regard this country as a very potential rival in solvent products markets.

Other New Products

We have dealt superficially with two only of many new classes of products that are being manufactured now in Great Britain. To extend the list to dyes, including the important new vat dyes of the Scottish Dyes Limited, synthetic resins and plastics, furfural for the leather tanning industry, special forms of salt for the curing trade, and so on, would only be to repeat much of what has been said.

It is surely permissible, in an article on British chemical industry to pay tribute to a section of home manufacture which helps materially to maintain the high standard of British chemicals; we refer to the products of the British chemical plant manufacturer.

Without doubt, the history of chemical plant manufacture in this country rivals all the stories woven round the manufacture of the newer chemical products, both with respect to the difficulties which face the industry and the success with which many of the problems have been tackled.

Specialized Working Plans

On comparison with Continental and American practice, one finds a fundamental difference of attitude on the part of British chemical apparatus and equipment maker to his customers. In the former instances, the general tendency is to present the same standardized plant units to each and every customer, while the British practice tends more towards the consideration of every case individually on its merits. We would maintain that the case for either procedure is not yet completely made out, and it would be invidious to express comparison or to draw any firm conclusion. It will be granted however, that the path which the British chemical plant manufacturer has chosen is by far the more difficult passage.

In closing, we might add to this paragraph a reference to the most recent attempt at co-operation between the plant manufacturer and the chemical manufacturer. Under the auspices of the Association of British Chemical Manufacturers and the British Chemical Plant Manufacturers' Association, there has been formed a joint committee, on which the two interests are fully represented, as well as

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the third necessary party—the maker of the media in which chemical plant is generally constructed. Naturally, stainless steel manufacturers are well represented, but it is important to note that the present committee will not confine itself to any one class of media or on the other hand, to any one type of corrosion problem.

CHOOSING LACQUER SOLVENTS

(Continued from Page 640)

C, a specific gravity of 0.9365 at 15 degrees C, a molecular weight of 146 and an ester number (pure preparations) of 767. It is again slightly soluble in water but can be mixed in almost any proportion with organic solvents. It behaves much like diethyl carbonate, but differs from the latter substance in that its volatility is less and its flame temperature is higher. The flame temperature of these solvents and diluents is directly proportional to their fire hazards and when all other conditions are alike, the solvent or diluent with the higher flame temperature should be preferred.

Methylhexanol

Another interesting solvent is methylhexanol acetate. This is a substance which is made by the acetylation of the three hydrated cresols, that is meta, ortho and para cresols. It is therefore not a simple chemical substance by any means but a mixture of various chemicals and hence its properties may vary considerably. It is however one part by weight of nitrocellulose in two parts by weight of methyl hexanol acetate and seventeen parts by weight of 93 per cent alcohol.

Butanol acetate is a good solvent for celluloid and for nitrocellulose. The solutions obtained with the aid of this solvent may well be diluted with alcohol, benzol or benzine. Thus one part by weight of nitrocellulose will dissolve in

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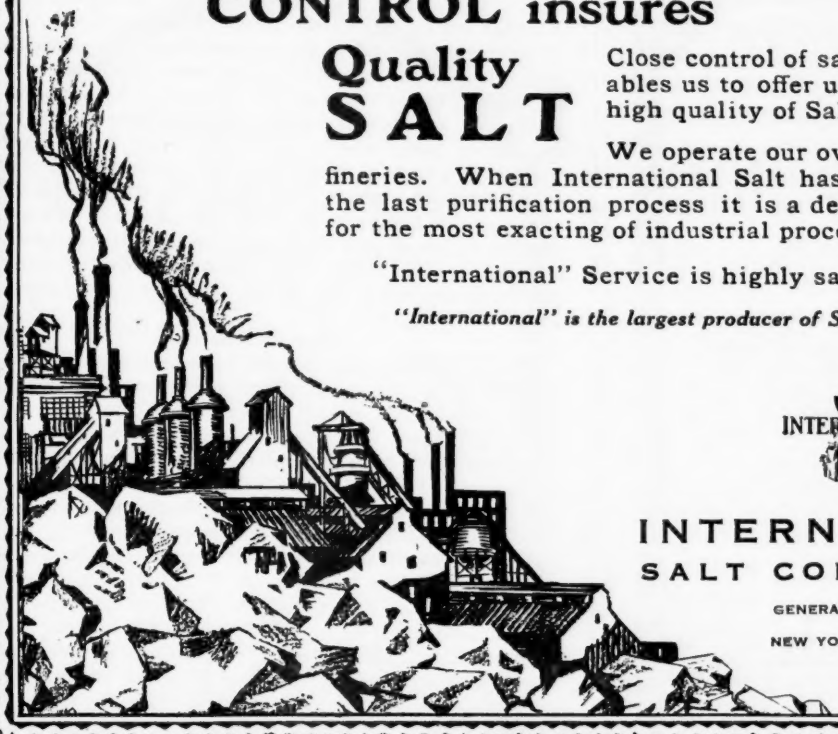

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nine parts by weight of butanol acetate and ten parts by weight of 93 per cent alcohol are added. The boiling range of butanol acetate is 121 to 127 degrees C, the specific gravity is 0.8874 and the flame temperature 25 degrees C.

Cyclohexanone and methylcyclohexanone are particularly interesting in that they are good solvents of cellulose acetate Here again the solutions may be diluted with the aid of alcohol, benzine or benzol and colored, if necessary, by the addition of basic colors. The lacquer may be made from one part by weight of cellulose acetate, seven parts by weight of cyclohexanone and twelve parts by weight of 93 per cent alcohol. The boiling range of cyclohexanone is 155 to 165 degrees C, the density 0.985 and the flame temperature 34 degrees C. The boiling range of methyl cyclohexanone is 165 to 171 degrees C, the density 0.9266 and the flame temperature 48 degrees C.

The Alcohols

Both methyl and ethyl alcohol have been used as solvents and diluents in the manufacture of lacquers but their properties and use are so well known that it is not necessary to discuss them here. There are however other alcohols which have been found to be particularly useful in the manufacture of lacquers. Butyl alcohol or butanol is one of these. It is an example of a substance which is not a solvent of nitrocellulose in the pure state but becomes a solvent on the addition of small amounts of organic esters. In the pure state butanol has a boiling point of 117 degrees C, a density of 0.8097 at 20 degrees C. The density of the commercial product is between 0.810 and 0.820 and its boiling range is 95 to 120 degrees C. The flame temperature is 27.8 to 29.4 degrees C. Butanol can be mixed in any proportions with the usual organic solvents. It is slightly soluble in water.

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are the alkyl esters. Thus ethyl acetate is to-day a solvent of the highest importance. Butyl acetate is another substance of similar characteristics. It has an agreeable odor and is a chemical entity. It is a colorless liquid boiling at a temperature of 135 degrees C. Its flame temperature is 25.6 degrees C and its density is 0.872 at 16 degrees C. It can be mixed in almost all proportions with the majority of organic solvents. Butyl acetate does not have so effective a solvent action on nitrocellulose as ethyl acetate but it has not the tendency to cause clouding of the film of lacquer.

Amyl acetate has a variety of uses amongst which not the least importance is its use in the manufacture of lacquers. These lacquers are apt to be more viscous when the amyl acetate is used, but at times this is not a disadvantage.

Butyl Proprionate

Butyl proprionate is a solvent of more recent introduction into the industry. It has solvent powers but they are less effective than those of ethyl acetate and propyl acetate. The boiling range is between 125 and 160 degrees C. The commercial contains not only butyl proprionate but also butyl acetate, butyl butyrate, and butyl alcohol. It is much used in the manufacture of high grade lacquers for use on automobiles.

Miscellaneous Solvents

There are numerous miscellaneous solvents, which have been applied with considerable success in the manufacture of lacquers and varnishes containing the cellulose esters as well as resins and gums. Diacetone alcohol is a substance of this type. It is made from acetone and while it possesses certain advantageous properties, its main fault is its instability. It is a colorless liquid which is almost odorless and which boils at a temperature of 160 degrees C. Its density is 0.916 to 0.922. In the pure state it has a flame temperature of 24.4 degrees C. The commercial product, which

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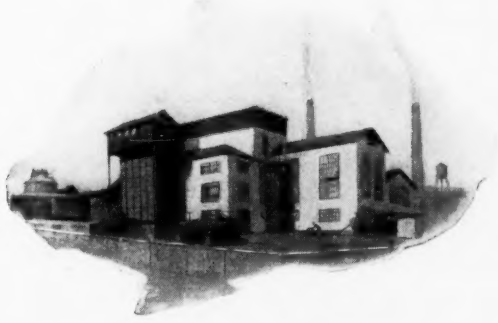

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contains a fairly large amount of acetone, has a flame temperature of 4.4 degrees C. The solvent can be mixed with water and with the usual organic solvents. It is a very good solvent of nitrocellulose and when it is used, there is practically no danger of the film clouding. Its valuable property is that it can be mixed with a large proportion of diluents without injurying the quality of the lacquer. It is preferred to butyl acetate in this respect but on the other hand it does not evaporate as fast as the latter. One particularly unfortunate property of this substance is that it does not dissolve resins and oils, or rather only slightly.

Ketol is a product which consists of a number of ketones. It is obtained by the distillation of calcium butyrate which is obtained in the fermentation of wood meal in the presence of lime. The boiling range of ketol is between 60 and 200 degrees C, and the fractions which are obtained from it between these temperatures have been found to be excellent solvents for nitrocellulose and the like, the effectiveness of their solvent power varying directly with the boiling point.

Mesityl oxide is another solvent which has a boiling temperature of 132 degrees C. It has been recently patented and described as an excellent solvent for nitrocellulose in the manufacture of lacquers and varnishes.

Other interesting solvents which may be mentioned in conclusion are isobutyl acetate, known also as Tamosol J. methyl ethyl acetate known as Solvent E43, methyl formate, ethyl formate, dioxane, etc. Such substances as the aklylene and isoalkylene ethers of ethylene glycol may be mentioned as amongst the newest developments, for example, isoamyl ether of ethyleneglycol, isobutyl ether of ethylene glycol, or isopropyl ether of proprylene glycol. Substances such as ethylene oxide, propylene oxide, tetraethyleneglycol, ethyl dichloroethylate, methyl lacetate, dimethyl-ethylene oxide alphapropylene oxide, epichlorohydrin, etc. etc. have also been advocated for this purpose.

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THE CARTEL AND FRANCE

(Continued from Page 636)

and already, negotiations have begun in view of a possible entente in the artificial silk industry. There still remains the delicate problem of nitrogen, for which a solution will also be found someday. We can also detect in Belgium a certain movement towards centralization, so that our neighbor will be in the position to enter the big international groups.

With regard to nitrogenous products, very important progress has been made. Apart from the State factory of Teulouse, which will have a production capacity of about 30,-00 tons of nitrates of ammonia, by the Casale and Haber processes, the installation of the Georges Claude process is under way in different parts of France, especially in the northern coalfields.

Potash is exported in large quantities, and research work is very active with a view to the manufacture of completely synthetic fertilizers.

With reference to the production of synthetic carburants, it is hoped that a solution will be reached, slightly different from the German method, which has the distillation of brown coal as a basis, and one which will have a more adaptable process analogeous in certain respects to that method employed for the fixation of nitrogen.

Also, research work continues for other syntheses. These have entailed the manufacture of acetic acid, cyanhydric acid, which has brought about considerable progress in the production of artificial silk, dyestuffs and pharmaceutical products.

In the dyestuffs branch of the industry, France manufactures at Villers-St.Paul, the entire series of products, including vat dyes, this latter production having begun some months ago.

As regards sodium products, France manufactured 440,-

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000 tons of carbonate of soda, and 80,000 tons of caustic soda in 1914.

The most important of the mineral fertilizers were represented by phosphoric products, which included 1,900,000 metric tons of superphosphates, and 600,000 tons of slags. As regards nitrogen, France was far behind. French consumption, which was at a low level, (70,000 metric tons), was only supplied with 17,500,000 metric tons from national sources, the rest being imported in the form of nitrate from Chili and sulphate of ammonia from England. France imported almost the total quantity of potash utilized.

France increased her production slightly. It would seem that her factories were only concerned with obtaining the mastery of domestic markets for the products for which they had every facility for maintaining their position. Up to 1914, no effort was made with a view of developing exports of sulphuric acids and superphosphates, and nothing was done, on the other hand, to prevent importation. The result was a rather dangerous economic policy, because possibilities of larger consumption were noticed.

As regards organic products and dyestuffs, France was entirely dependent on foreign markets, principally German. France had not the necessary organization of the coal by-products, and the situation was the same with regard to pharmaceutical products. A certain number of factories were busy in finishing the intermediary products which came from Germany, but the German industries penetrated more and more into the French market, especially by establishing branches in France which, with the help of their commercial organization, paralyzed the weak initiative of the French producers, who easily became their prey.

French Efforts Since the War

The war was a stimulus for the awakening of French industries, and they realized the direction which they should follow. The creation in France of factories with a view to national defense, the organization of French production, the transformation in the south, the centre and the west of France, the reconstruction of industrial centres in the devastated areas of France in the north and east, resulted in a very considerable activity immediately after the Armistice.

Even in 1920, the French chemical industry followed objectives which would open up highways in the future because, aside from the material work accomplished, scientific research has been organized on a solid basis. French producers were able to supply a large portion of the national consumption, and were even able to exploit quite an important number of products, but their principal competitors, the Germans, did not believe in their determination to persevere in the realization of the plans projected after the war.

From the time when France began to export, Germany began the fight on the import market. This task was somewhat easy. Germany was able to produce at high speed

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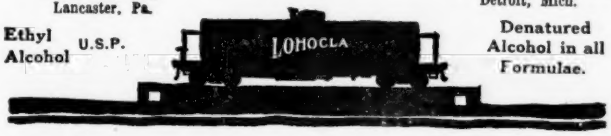

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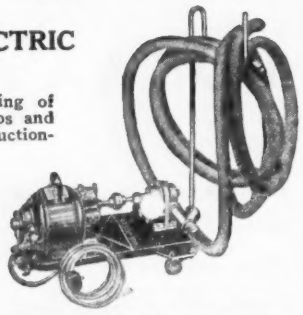

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and had at her disposal the most remarkable factories whose equipment had been brought up to date long before. Following the deflation of its currency, wages fell to a very low level, and German prices seemed to defy all competition, the more so as all sums received were immediately transferred to gold, a commercial practice which put them in the position to maintain prices most favorable for export. We must add that Germany still occupied a very high position in the estimation of certain people with regard to dyestuffs.

Stimulated by this competition, French producers doubled their efforts. The Coe. Nationale des Matieres Colorantes, which has recently been absorbed by the powerful Kuhlmann company developed its production at such a rate that the greater part of French requirements were covered by them, and they even began to export.

At the present time, production of the principal French chemical products may be estimated as follows:

Chemical Products:

	metric tons
Sulphuric acid	1,600,000
Nitric acid	25,000
Muriatic acid	100,000
Carbonate of soda	490,00
Caustic soda	12,000
Liquid ammonia	13,500
Dyestuffs	12,500

Fertilizers:

Superphosphates	2,400,000
Basic scories	1,500,000
Sulphate of ammonia	170,000
Cyanamid	55,000
Pure Potash K20	370,000
Sulphate of copper	35,000

It is necessary to draw attention to the increase in the production of potash. By reason of the recovery of Alsace and Lorraine, France has regained the Mulhouse mines. From 1919 to 1927, potash production increased from 96,500

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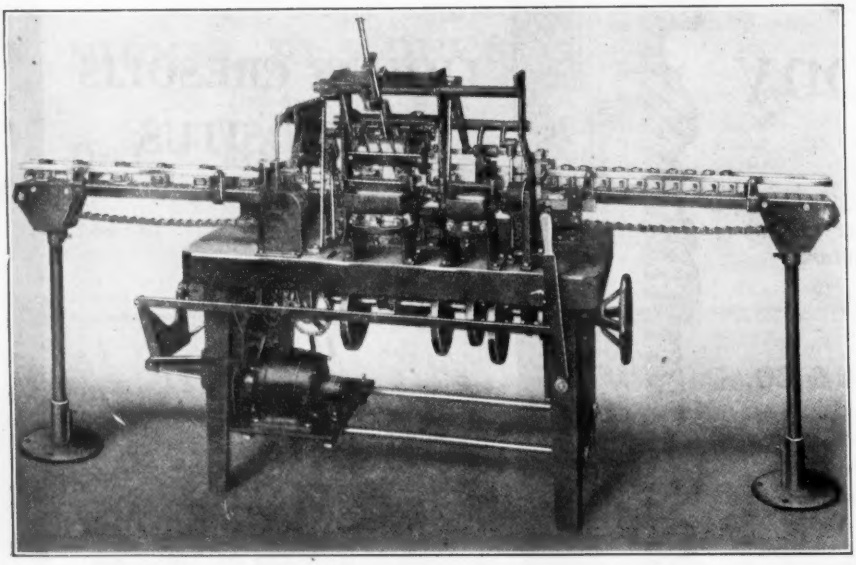

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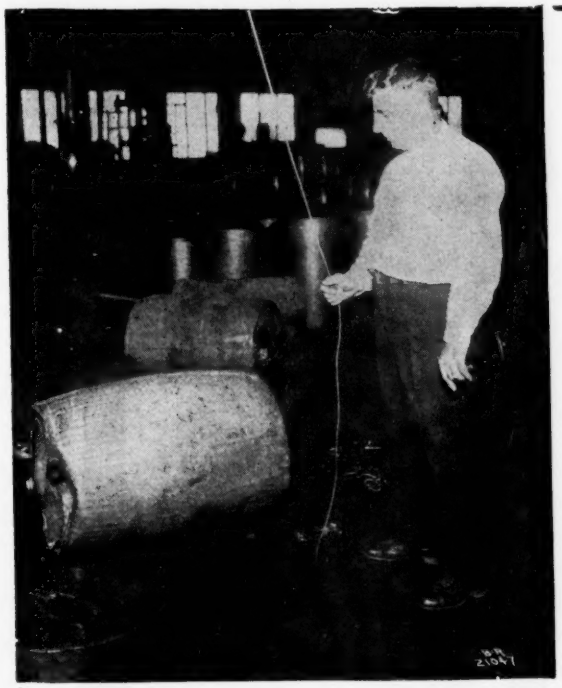

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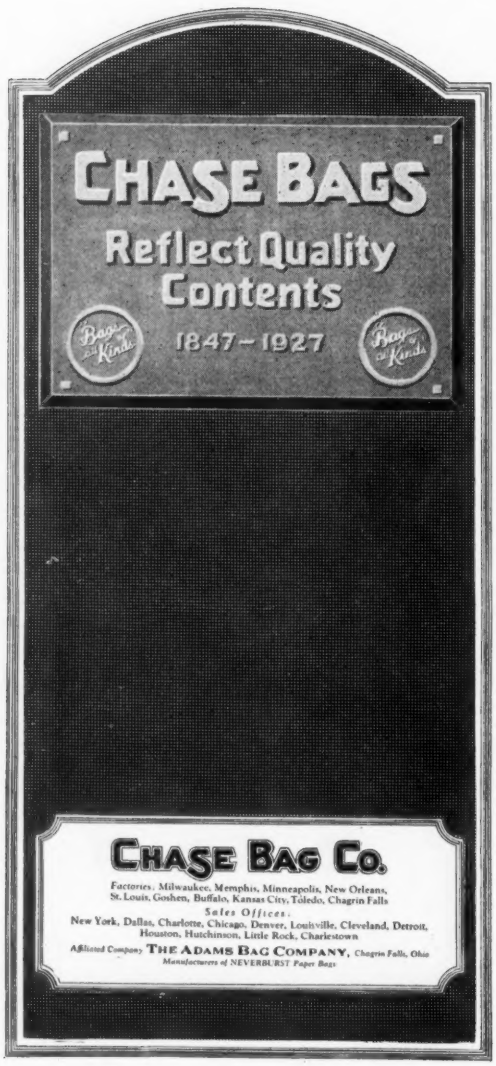
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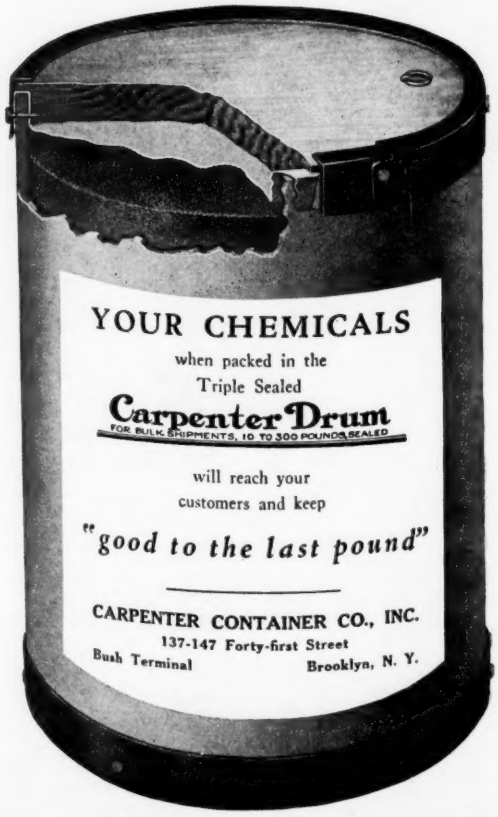
metric tons to 370,000 metric tons. As regards the nitrogen contained in the different nitrogenous products, the output has increased from 17,500 metric tons in 1913, to 41,700 tons in 1927. Concerning raw phosphates, French North Africa produced 4,307,473 metric tons, of which 715,000 tons were from Algeria, 2,700,000 tons from Tunisia, and 890,000 tons from Morocco. The French quarries produced 250,000 tons. With regard to dyestuffs, French production in 1913 only supplied 7 per cent of domestic needs, today, the proportion has risen to 92 per cent. As regards foreign trade, the situation is as follows:

Chemical Products:	Imports	Exports.
	metric	tons
Sulfuric acid	30,000	12,000
Nitric acid	5,000	350
Muriatic acid	1,190	1,800
Ammonia	6,104	369
Chloride of soda	55,784	214,000
Coal-tar	322,664	—
Benzol	700	32,000
Bichromates	3,460	50
Sulfur (raw & others)	480,000	—
Sulfate of soda	250	2,800
Lithopone	7,634	500
White lead	737	277
Ochre	1,640	32,000
Dyestuffs	1,000	100
Fertilizers:		
Basic slag	17,800	283,149
Scories	216	820,000
Chilean saltpetre	150,000	10,000
Norwegian saltpetre	24,000	—
Sulfate of ammonia	160,000	12,000
Cyanamid	8,000	—
Pure Potash K20	4,160	205,242
Sulfate of copper	19,500	7,000



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Local Market Conditions

KANSAS CITY

Business is holding up in a routine fashion, orders steady but rather small in size. The abnormally warm unseasonable weather is doubtless retarding sales in practically all fall and winter lines and has resulted in a deferring of the expected and normal fall volume of business. The movement of alcohol and glycerin into consuming channels has been particularly effected of course by the warm weather. Cod liver oil and castor oil are fairly active and steady Lacquer solvents are moving very freely as are most other items to the paint industry. The flour mills in this territory have established record in production with of course the usual demand for items required in this line. The stock remedy trade is especially active with the open weather prevailing.

ST. LOUIS

Because of unseasonable warm weather during the month of October general business conditions were not good. This condition was reflected in the chemical industry. There is a definite promise however, for business to show a decided improvement as soon as cold weather sets in. With the end of the year rapidly approaching the trade is busy making contracts for delivery over 1928. Contract prices which have already come out do not show any material change from the prices obtaining during 1927. Among the interesting price changes during the past month was a decline in the price of vanillin. Tin oxide is also weaker and continues to decline. On the other hand in view of an advancing foreign market the price of vanilla beans has firmed up and is now on the upgrade. Collections are good, most companies appearing to have ready money.

NEWARK

General business is still further improved over last month. The unemployment is lessening and there is a very definite demand for help. On the whole there is a firmer tone and a greater demand for paints and varnishes, although several large producers are running extremely light, claiming the automobile business as responsible for the principal dullness in this line. Their products to the woodworking trade are steadier. Not much change is to be noted in the leather trade although reports that

Massachusetts

Rogers & McClellan
New England Agents
Seaboard Chemical Co.
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Methyl Acetone
Franco-American Chemical Wks.
Amyl Acetate Pyroxylin Solutions
Atlantic Carbonic Co.
Glauber Salts Bisulphite Soda
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The Chemical Market-place

[Spot Stocks Department]

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Local Market Conditions

sole leather surpluses have been cleared out after a long period of years are attracting attention in the trade with a likelihood that upper leather and other findings in the shoe trade will respond and a larger volume of business ensue. While the output of textiles is still below normal, there is a definite improvement over the previous month but as the trade was so extremely dull it still leaves the output considerably below normal.

BUFFALO

There has been a steady demand for chemicals and the general average of volume business has been good. Contract customers have been drawing quite steadily against their specifications and the withdrawals from warehouse stocks in less carload lots have been well up to the average. Alkalies are in very good demand and the volume put out is in excess of the same period last year. There has been a slight demand for china wood oil but buyers are showing interest when any weak spots appear and on this basis some business has been done. Practically all of the industrial plants in and around Buffalo district are operating under fair schedule. Collections are good and we look for a fairly satisfactory demand for heavy chemicals, raw materials and oils during the balance of this year.

PHILADELPHIA

Advances and declines are about evenly balanced in market development during the closing half of October, but the former period predominates in importance. Barium chloride seems to be in better demand, and prices quoted were somewhat firmer. Gray sal ammoniac was also in better demand and price seems to be firming up. This item seems to be somewhat scarce on spot. Glycerin seems to be picking up also for spot inquiry, also on contract. Naphthalene in balls and flakes are quoted at last year's schedule although for spot the price is higher, being quoted at 5 and 6c. Other chemicals seem to be slower. White sal ammoniac black needle antimony, etc. seem to be in very small demand at the present time. All told business conditions are fair; there is no large volume being placed, but there are a fair amount of orders. We look for improvement as the cold weather approaches.

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Calco Chemical Co.
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DuPont de Nemours & Co., E. I.
Greeff & Co., R. W.
Jordan & Bro., Wm. E.
Monsanto Chemical Works
Roessler & Hasslacher Chemical Co.
Tar Acid Refining Corp.

Organic

American Cyanamid Co.
Cleveland-Cliffs Iron Co.
Cooper & Co., Charles
Eastman Kodak Co.
General Chemical Co.
Grasselli Chemical Co.
Gray & Co., William S.
Greeff & Co., R. W.
Heyden Chemical Corp.
Lewis, John D.
Mallinckrodt Chemical Works
Monsanto Chemical Works
Roessler & Hasslacher Chemical Co.
Turner & Co., Joseph
Victor Chemical Works

Mineral

American Cyanamid Co.
Cooper & Co., Charles
DuPont de Nemours & Co., E. I.
General Chemical Co.
Grasselli Chemical Co.
Heyden Chemical Corp.
Monsanto Chemical Works
Pennsylvania Salt Manufacturing Co.

ALCOHOL

Denatured

American Solvents & Chemical Corp.
Berg Industrial Alcohol Co., David
Commercial Solvents Corp.
Federal Products Co.
Gray & Co., William S.
Miner-Edgar Co.
Roessler & Hasslacher Chemical Co.
Seaboard Chemical Co.
U. S. Industrial Alcohol Co.

Methanol

Cleveland-Cliffs Iron Co.
Cooper & Co., Charles
Gray & Co., William S.,
Greeff & Co., R. W.
Miner-Edgar Co.
Roessler & Hasslacher Chemical Co.
Seaboard Chemical Co.

ALKALIES

Arnold, Hoffman & Co.
Church & Dwight
Electro Bleaching Gas Co.
Grasselli Chemical Co.
Lewis, John D.
Mathieson Alkali Works
Michigan Alkali Co.
Niagara Alkali Co.
Pennsylvania Salt Manufacturing Co.
Roessler & Hasslacher Chemical Co.
Solvay Process Co.
Turner & Co., Joseph
Warner Chemical Co.
Winkler & Bros., Co., Isaac

ALUMS

Cooper & Co., Charles
General Chemical Co.
Grasselli Chemical Co.
Greeff & Co., R. W.
Monsanto Chemical Works
Pennsylvania Salt Co.
Roessler & Hasslacher Chemical Co.

AMMONIA or SALTS

Barrett Co.
Benkert & Co., W.
Cooper & Co., Charles
Dow Chemical Co.
General Chemical Co.
Grasselli Chemical Co.
Greeff & Co., R. W.
Lewis, John D.
Mallinckrodt Chemical Works
Mathieson Alkali Works
Roessler & Hasslacher Chemical Co.
Turner & Co., Joseph
U. S. Industrial Chemical Co., Inc.

DYE & TAN STUFFS

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Arnold, Hoffman & Co.
Calco Chemical Co.
DuPont de Nemours & Co., E. I.
General Dyestuff Corp.
Lewis, John D.
Monsanto Chemical Works
National Aniline & Chemical Co.
Newport Chemical Works
Seaboard Chemical Co.
Starkweather Co., J. U.

FILLERS & CLAYS

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Burnet Company
Hammill & Gillespie
Miner-Edgar Co.
Roessler & Hasslacher Chemical Co.
Wishnick-Tumpeer Inc.

WOOD FLOUR

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PIGMENTS & COLORS

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Cooper & Co., Charles
DuPont de Nemours & Co., E. I.
General Dyestuff Corp.
Industrial Chemical Co.
National Aniline & Chemical Co.
Newport Chemical Works
Wishnick-Tumpeer, Inc.

ACCELERATORS

American Cyanamid Co.
Cleveland Cliffs Iron Co.
Dovan Chemical Corp.
Dow Chemical Co.
DuPont de Nemours & Co., E. I.
Grasselli Chemical Co.
Greeff & Co., R. W.
Lewis, John D.
National Aniline & Chemical Co.
Roessler & Hasslacher Chemical Co.

FERTILIZER SUPPLIES

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Barrett Co.
General Chemical Co.
Greeff & Co., R. W.
Roessler & Hasslacher Chemical Co.

INSECTICIDES

Dow Chemical Co.
General Chemical Co.
Grasselli Chemical Co.
Greeff & Co., R. W.
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Roessler & Hasslacher Chemical Co.

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Carus Chemical Co.
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American Solvents & Chemical Corp.
Church & Dwight (soda bicarb.)
Cleveland-Cliffs Iron Co. (wood chem.)
Commercial Solvents Corp. (butanol)
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Croton Chemical Corp.
Dovan Chemical Co. (rubber accel.)
Dow Chemical Co.
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Emery Candle Co.
Electro Bleaching Gas Co. (chlorine)
General Chemical Co.
Grasselli Chemical Co.
Gray William S. & Co., (wood chem)
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Industrial Chemical Co.
International Salt Co.
Jordan, Wm. E. & Bro.
Lewis, John D.
Mathieson Alkali Works
Merchants Chemical Co.
Michigan Alkali Co.
Miner-Edgar Co. (wood chem.)
Monsanto Chemical Works
Niagara Alkali Co.
Pacific Coast Borax Co.
Parsons & Petit (sulfur)
Pennsylvania Salt Manufacturing Co.
Roessler & Hasslacher Chemical Co.
Seaboard Chemical Co. (wood chemicals)
Selden Co.
Solvay Process Co. (alkalies)
Starkweather Co., J. U.
Turner & Co., Joseph
U. S. Industrial Alcohol Co., Inc.
U. S. Industrial Chemical Co., Inc.
Victor Chemical Works
Warner Chemical Co.
Wiarda & Co., John C.
Winkler & Bros. Co., Isaac (alkalies)
Wishnick-Tumpeer, Inc.

SOLVENTS

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Berg Industrial Alcohol Co., David
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General Chemical Co.
Grasselli Chemical Co.
Gray & Co., William S.
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Lewis, John D.
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Calco Chemical Co.
DuPont de Nemours & Co., E. I.
General Dyestuff Corp.
Grasselli Chemical Co.
Gray & Co., William S.
Jordan, Wm. E. & Bro.
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Monsanto Chemical Works
National Aniline & Chemical Co.
Newport Chemical Works
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